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Marketing Research Report No. 1029

INITIAL FACILITIES FOR A REGIONAL WHOLESALE FOOD DISTRIBUTION CENTER AT NEW ORLEANS



Agricultural Research Service

UNITED STATES DEPARTMENT OF AGRICULTURE

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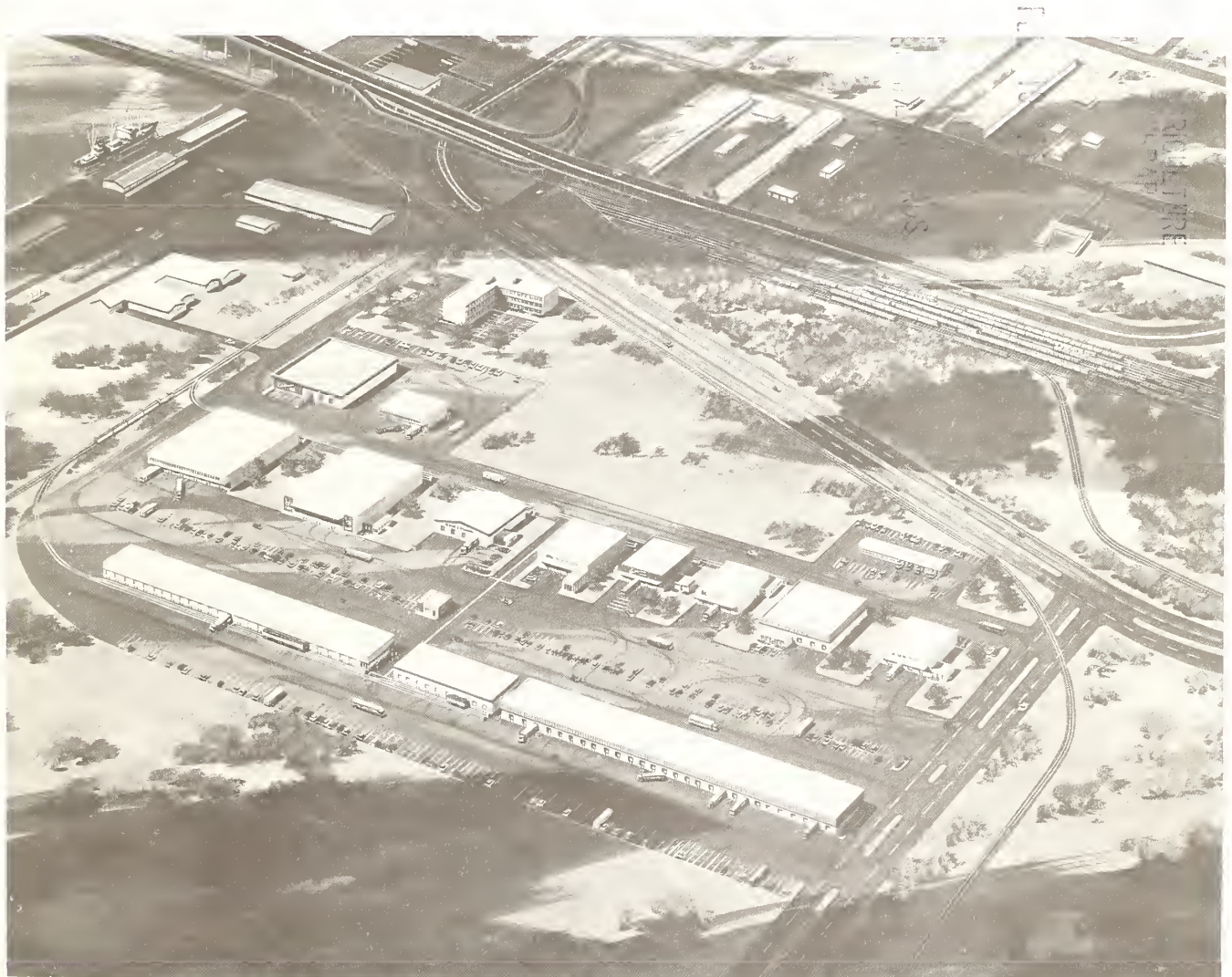
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This study was conducted under the general supervision of Kenneth H. Brasfield, Chief, Food Distribution Research Laboratory, ARS.

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Cover illustration.—Artist's conception of the master plan for a New Orleans wholesale food distribution center.

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INITIAL FACILITIES FOR A REGIONAL WHOLESALE FOOD DISTRIBUTION CENTER AT NEW ORLEANS

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SUMMARY

Many wholesale food firms in New Orleans are considering relocating their wholesale facilities because of redevelopment programs affecting their present locations or difficulties in continuing operations in antiquated or cramped buildings. This report analyzes the present food distribution situation in the metropolitan area, presents a guide for developing initial facilities for a regional wholesale food distribution center for those firms that must relocate, and examines the possible benefits of developing such a center.

The independent wholesalers interviewed totaled 103. Their firms include fresh fruits and vegetables, meat and meat products, poultry and eggs, dairy products (fluid milk), groceries, frozen foods, and fish and shellfish. They occupy approximately 2.3 million square feet of floorspace and received or processed about 419,000 tons of food products in 1972. Based on the volume of receipts, 83 percent arrived by truck, 15 percent by rail, and 2 percent by boat or air. Of the total firms interviewed, approximately half would need new facilities or have to relocate in the immediate future.

The 54 candidate firms occupy approximately 490,000 square feet of operating space. They receive 264,000 tons of food products annually, of which 83 percent arrives by truck, 15 percent by rail, and 2 percent by boat or air. These firms deliver about 81 percent of their commodities within the New Orleans metropolitan area, about 14 percent outside the city but within the State, and 5 percent outside the State. The annual selected costs incurred by these firms for moving products to, through, and from wholesale facilities total about \$7.2 million.

To meet the needs of the firms requiring new facilities, a new regional food distribution center is recommended. The master plan includes nine single-occupancy buildings with 312,000 square feet of first-floor space, four multiple-occupancy buildings with 210,000 square feet, and a farmers' market with 17,000 square feet, totaling 539,000 square feet of new facilities. In addition, a central refrigeration plant would be located at the center.

The initial development would require approximately 92 acres for the candidate firms, support facilities, allied industry, and expansion. Additional land would be necessary for future development. The center would be located at Gentilly in New Orleans East on a 270-acre tract of land. Approximately 40 acres of this site have been purchased by the city of New Orleans for this purpose.

If private financing were used, the total annual revenue required to develop and support the food center would be \$1.9 million or \$3.61 per square foot of first-floor space. Assuming public financing

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were available, the total annual revenue required would be approximately \$1.4 million or \$2.56 per square foot.

The total cost for moving food commodities to, through, and from the candidate firms in the proposed facilities would be \$6.4 million with private financing or \$5.9 million with public financing in comparison with \$7.2 million in the present facilities. This would represent a savings of about \$796,352 with private financing or \$1,347,096 with public financing, excluding refrigeration costs. Additional savings could accrue to wholesalers

from a centralized refrigeration system at the center.

The center would provide benefits, not measurable in dollars, that will affect the community. They include clean, modern surroundings for handling food, space for new firms and allied industry as well as for expansion of individual firms, adequate facilities for the employees and customers, sufficient convenient parking for all cars and trucks, improved protection from vandalism and theft, better insurance coverage, and a basis for community pride in local industry.

INTRODUCTION

This study of wholesale food marketing facilities in the New Orleans metropolitan area² was undertaken at the request of the mayor of New Orleans, the French Market Corporation, the city of New Orleans, Greater New Orleans Chamber of Commerce, interested trade groups, and responsible civic agencies. The request was activated by the extensive renovation program for the French Market area located adjacent to the French Quarter in New Orleans. These additions and alterations will necessitate the relocation of a large concentration of wholesale food firms. Thus, recognizing the need for adequate wholesale food distribution facilities for the New Orleans metropolitan area, responsible agencies requested the U.S. Department of Agriculture to make a comprehensive study of selected firms that could be affected by several renewal and construction programs in the metropolitan area. This area contains about 7,576 square miles, of which 2,195 square miles are land. It has about 28.7 percent of the State's population.

This study was concerned with wholesale facilities of firms handling fresh fruits and vegetables, meat and meat products, poultry and eggs, dairy products (fluid milk), groceries, frozen foods, and fish and shellfish. Over 200 independent wholesalers throughout the metropolitan area were contacted and general interviews were completed

with 103 firms. Additional information was not collected from firms found during the first contact to have adequate, new, or remodeled facilities and able to meet their business needs for the foreseeable future or from firms found to conduct less than half their business at wholesale.

The study had the following objectives:

- To analyze the present wholesale food marketing system in the New Orleans area and to ascertain the adequacy of selected food firms as to present and future requirements.

- To estimate the major measurable costs of handling food through the facilities of firms that would require new or relocated operations.

- To determine the amount of facilities and land required to provide for the initial development of a regional wholesale food distribution center, the cost of construction, probable operating expenses, and the source of income in the proposed facilities.

- To outline the costs and benefits that might result from constructing the initial facilities for such a food center.

All data relating to the tenure status and space utilization in the general sample were collected by personnel of the French Market Corporation with the exception of dairy firms. Detailed data about selected costs of handling were collected from 54 firms and information about dairy firms was obtained in interviews by U.S. Department of Agriculture personnel, except fish and shellfish data, which were collected by French Market Corpo-

² Orleans, Jefferson, St. Bernard, and St. Tammany Parishes.

ration personnel. Additional information required for analyzing the marketing system was obtained from historical records, earlier studies, shippers,

railroad and trucking company officials, and personnel of the city, parish, State, and Federal governments.

PRESENT FOOD DISTRIBUTION SYSTEM

Description of Marketing Facilities

The French Market had its beginning in 1791, when the original buildings were constructed to accommodate people buying meat and vegetables along the Mississippi, because the river was New Orleans' main street. After a hurricane in 1812 destroyed the original structures, the first of the present buildings was erected in 1813 and others have been added from time to time.

After more than a century of service, the French Market, originally privately owned, became part of the public market system operated by the City Division of Markets. With the natural growth and expansion of the city, the number of public markets increased to 23.

A group of businessmen formed the French Market Corporation, a quasi-governmental corporation, in 1930. This led to various improvements and modernization of facilities. Other markets in the city continued to operate through the 1930's and the early 1940's. Then the city divested itself of all public markets except the French Market. By the mid-1950's only the privately owned Poydras Street Market and the French Market were operating as wholesale produce markets in the city.

In the 1960's, as the result of a study,³ an attempt was made to consolidate the existing markets. However, this caused several firms to relocate elsewhere in the city and surrounding parishes or counties, and the markets were further segmented. In 1974 only the French Market remained in operation.

The French Market

The French Market consists of five blocks on the fringe of the famed New Orleans French Quarter, extending from St. Ann Street on the southwest to

Barracks Street on the northeast and from the Mississippi River floodwall on the southeast to Decatur Street on the northwest.

The wholesale food market is two blocks long and is bounded by Ursulines Avenue on the southwest, Barracks Street on the northeast, Decatur Street on the northwest, and the Mississippi River levee floodwall on the southeast.

At the hub of this wholesale area are 2 open farmers' sheds (fig. 1), each 320 feet long by 50 feet wide and divided into 75 open stalls on each side or a total of 150. The stalls are 8 by 15 feet, with a 6-foot center aisle dividing them. The aisle is flanked on both sides by a slightly raised concrete platform for displaying produce. The overhanging roof extends approximately 15 feet on either side of the display platforms. Public restroom facilities are available. A field office is provided at the northeast end of the market for operating personnel. The two sheds are used primarily for distributing produce grown in Louisiana. However, fresh fruits and vegetables from other sections of the United States, as well as from all over the world, are available.

Directly across from these wholesale-retail sheds are 17 wholesale fresh fruit and vegetable firms. These facilities are generally old multiple-story warehouses, often using slow freight elevators to upper levels. Some are converted residences with stores on the lower levels. Since all facilities lack loading platforms, loading and unloading are from the sidewalk by hand with two- or four-wheel handtrucks (fig. 2). Because many of the wholesalers lack adequate storage and warehouse space, they have to use sidewalks, often making them impassable. The streets are congested, and parking or unloading space is totally inadequate. Therefore wholesalers are forced to unload large quantities of merchandise and transport it by handtruck from locations that may be as far as two blocks from their facilities.

Most wholesalers with refrigeration facilities lack sufficient cooler or freezer space, and as a re-

³ TRAYLOR, HARLAN D., and WARRINGTON, S. T. WHOLESALE FOOD FACILITIES IN NEW ORLEANS, LOUISIANA. U.S. Dept. Agr. and La. State Univ. and Agr. and Mech. Col. DAF Cir. 259, 67 pp., illus. 1960.



PN-3867

FIGURE 1.—The French Market.

sult many firms maintain split operations in order to gain additional refrigerated space.

Fresh Fruits and Vegetables

The 26 fresh fruit and vegetable wholesalers in New Orleans occupy a wide range of facilities. Some of these firms, especially those in the French Quarter, are housed in brick and concrete buildings constructed in the 1850's and originally designed as retail shops and residences or as river freight warehouses. They lack adequate storage space and front on narrow streets that hamper receiving and shipping operations. Inadequate facilities have forced many of these firms to conduct some of their wholesale activities on public streets

and narrow congested sidewalks. Losses from pilferage are common. Figure 3 shows produce being stacked on a public sidewalk adjacent to a fresh fruit and vegetable wholesale facility.

Other fresh fruit and vegetable wholesalers are housed in more modern facilities. They have high ceilings, adequate space, and well-designed receiving and shipping areas, but few of these wholesalers have adequate refrigeration. Although some firms are served directly by rail, most of them are forced to use team tracks for their rail receipts.

Meat and Meat Products

Some of the 22 meat and meat products wholesalers are located in modern buildings and others in old, inadequate facilities (fig. 4). Generally re-



PN-3868

FIGURE 2.—Unloading trucks in the street.

frigerated space is sufficient for present operations; however, many firms are operating at capacity and expansion is impossible. The meat facilities are mostly first-floor operations with occasional offices on the second floor. Loading and unloading facilities range from meat rails located on platforms to receiving and shipping areas on sidewalks directly adjacent to plants. Traffic conditions are not a major problem because most of the firms are in scattered locations or provide delivery service.

Several firms are in the downtown area, where future operations may not be economically feasible because of real estate improvements nearby. All firms presently meet State inspection requirements; however, several are in areas where future development could result in their failure to meet regulatory requirements.



PN-3869

FIGURE 3.—Fresh fruit and vegetable wholesale facility.

Poultry and Eggs

The 12 poultry and egg firms operate in facilities ranging from one-story buildings designed for their use to converted combination store residences (fig. 5). Some firms are hampered in their operations by crowded interiors and lack of receiving and shipping facilities. Most of these firms lack access to adequate parking and truck-maneuvering space. Some of their facilities are so deteriorated that the firms will have considerable difficulty in continuing to meet increasingly strict sanitation and inspection requirements.

Most of the poultry and egg firms are located near their customers or have immediate access to major streets or highways. Others are poorly located and have difficulty in moving trucks to and from their wholesale facilities. The latter often selected their present facilities because of low rent or availability of labor.



PN-3870, PN-3871

FIGURE 4.—Modern (above) and antiquated (below) meat and meat products wholesale facilities.



PN-3872, PN-3873

FIGURE 5.—Modern (above) and antiquated (below) poultry and egg wholesale facilities.

Dairy Products (Fluid Milk)

Eleven fluid milk processing plants serve the New Orleans metropolitan area. Three of them are downtown and the others in the outlying areas. They are primarily brick and concrete structures (fig. 6). Five of them are multistory and arranged so that the processing and handling operations are conducted on various levels; however, the upper floors are generally used for offices and storage. The other six firms have all their operations on one floor. Most of the plants have facilities nearby for storage and a limited amount of processing. Although most of these facilities have been used for many years, they are still in good condition and generally meet the needs of the firms. Most of the dairy firms have adequate parking and access to major streets and thoroughfares with little or no traffic congestion. Although some firms have rail

at or near their facilities, they largely depend on truck transportation.

Groceries and Frozen Foods

The buildings used by the 22 grocery and frozen food firms vary from modern single-level warehouses designed for modern food-handling operations to old multistory structures. Some firms face on narrow streets and have to use valuable interior space for truck parking (fig. 7). Some of the wholesalers are forced by crowded interiors to use sidewalks for unloading areas, which block pedestrian traffic (fig. 8). Some firms operate in buildings that have been adapted from other uses (fig. 9). Most of the grocery and frozen food firms have sufficient refrigerated storage capacity to meet their immediate needs. A few need to use commercial cold-storage facilities or auxiliary buildings to store excess refrigerated inventory. Some firms have direct access to rail tracks, whereas others use team tracks to handle their rail receipts.

A few firms are concentrated in an area bounded by the Mississippi River and Tulane Avenue. The others are scattered throughout the metropolitan area.

Some firms extensively use forklift trucks, pallet racks, and mechanized selection, whereas others handstack merchandise on the floor and use slow freight elevators or mechanized conveyors to move products.

Sanitation is limited because many of these older warehouses are difficult to maintain.

Fish and Shellfish

Many firms maintain both wholesale and retail facilities for handling fish and shellfish. Only the wholesale facilities are described here.

The 10 wholesale fish and shellfish firms occupy facilities ranging from the most modern available in this country to deteriorated buildings adapted to their user's operations (fig. 10). Some firms have adequate platforms or interior areas for receiving and shipping operations. Other must use sidewalks or narrow streets for some of these operations. Considerable amounts of water from melting ice associated with fish and shellfish and lack of drains create sanitation problems for many firms and their neighbors. Congested interiors, low ceilings, and limited access contribute to inefficient handling practices. Most firms have adequate refrigeration.



PN-3874

FIGURE 6.—Dairy products (fluid milk) wholesale facility.



PN-3875

FIGURE 7.— Grocery wholesale facility with interior truck loading.

eration for their usual inventory but are often forced to use commercial cold-storage or auxiliary facilities for peak inventory periods. Surrounding conditions and uncontrolled access to the wholesale facilities frequently contribute to serious security problems. Parking and truck-manuevering areas are often limited or unavailable.

Volume of Food Handled

Direct receipts from producers or manufacturers are unloaded at wholesalers' facilities, rail tracks, boat piers, air terminals, or public warehouses. From points of receipt other than the wholesalers' facilities, commodities are moved by handtruck.



PN-3876

FIGURE 8.—Unloading grocery trucks on the street.



PN-3877

FIGURE 9.—Frozen food wholesale facility adapted from other use.



PN-3878

FIGURE 10.—Fish and shellfish wholesale facility.

wholesalers' trucks, or by cartage firms to the wholesalers' facilities. These direct receipts accounted for 418,820 tons in 1972, as shown in table 1. About 83 percent of direct receipts arrived by truck, 15 percent by rail, and 2 percent by boat or air.

Interwholesaler transfers or commodities exchanged between wholesale firms within the metropolitan area accounted for 8,579 tons in 1972, as shown in table 2. These transfers were necessary because of specialization or shortages. They ranged from those transported in wholesalers' trucks across the city or parishes to those moved down the street on handtrucks.

TABLE 2.—*Direct receipts and interwholesaler transfers for 103 selected wholesale food firms, New Orleans, 1972*

Type of firm	Direct receipts	Inter-wholesaler transfers	Total volume handled
Fresh fruit and vegetables.....	Tons 177, 612	Tons 1, 482	Tons 179, 094
Meat and meat products.....	67, 063	2, 548	69, 611
Poultry and eggs.....	42, 024	1, 080	43, 104
Dairy products (fluid milk) ¹	1, 941	267	2, 208
Groceries.....	81, 604	689	82, 293
Frozen foods.....	16, 389	601	16, 990
Fish and shellfish.....	32, 187	1, 912	34, 099
Total.....	418, 820	8, 579	427, 399

¹ Include butter, margarine, and cheese but not 53,685,926 gal of fluid milk products, fruit drinks, ice cream, and soft serve mix.

The estimated total volume of food handled by the 103 selected wholesale firms was 427,399 tons, consisting of 418,820 tons of direct receipts and 8,579 tons of interwholesaler transfers. The various firms handled different relative amounts of interwholesaler transfers. These transfers accounted for less than 5 percent of the total volume handled by fresh fruit and vegetable, meat and meat product, poultry and egg, grocery, and frozen food firms. About 12 percent of the total

TABLE 1.—*Type and number of selected wholesale food firms and estimated volume of direct receipts by method of transportation, New Orleans, 1972*

Type of firm	Firms	Volume of receipts by—			Total direct receipts
		Rail	Truck	Boat or air	
	Number	Tons	Tons	Tons	Tons
Fresh fruits and vegetables.....	26	24, 486	150, 001	3, 125	177, 612
Meat and meat products.....	22	-----	67, 063	-----	67, 063
Poultry and eggs.....	12	-----	42, 024	-----	42, 024
Dairy products (fluid milk) ¹	11	-----	1, 941	-----	1, 941
Groceries.....	16	31, 053	46, 886	3, 665	81, 604
Frozen foods.....	6	6, 760	9, 484	145	16, 389
Fish and shellfish.....	10	-----	32, 187	-----	32, 187
Total.....	103	62, 299	349, 586	6, 935	418, 820

¹ Include butter, margarine, and cheese but not 53,685,926 gal of fluid milk products, fruit drinks, ice cream, and soft serve mix.

volume handled by dairy firms consisted of inter-wholesaler transfers as did 6 percent of the total fish and shellfish volume.

The 418,820 tons of direct receipts handled by the 103 firms were distributed to customers throughout New Orleans as well as to 44 parishes in Louisiana, 27 counties in Mississippi, 10 counties in Alabama, 8 counties in Florida, and beyond. Distribution was facilitated by the extensive system of highways, railroads, inland waterways, and airlines available in the New Orleans area.

Tenure Status and Space Utilization

Of the 103 wholesalers, 91 require secondary facilities to maintain their operations. Their facilities are classified as primary when used in daily operations and secondary when used basically for storage. Secondary facilities are generally located adjacent to the primary facilities, although sometimes they are several miles away. Tenure status of only the primary facilities was recorded.

Table 3 shows the tenure status and space occupied by 103 wholesalers in New Orleans. More than half, or 55 firms, own their primary facilities, totaling 1,356,328 square feet of floorspace. The other 48 firms rent their primary facilities, totaling 851,572 square feet of floorspace. Approximately 139,565 square feet of floorspace are utilized as secondary facilities. The wholesalers occupy 2,347,465 square feet of floorspace, including both primary and secondary facilities.

Evaluation of Facilities and Methods

The wholesale food distribution system in New Orleans has changed periodically since World War II, when the city gave up control of all public markets except the French Market. Because of various studies or economic conditions many wholesale firms have moved to modern, efficient facilities, but others have maintained the status quo. This has resulted in a mixture of efficient firms in adequate facilities and others in old, outdated, inefficient facilities. Both types of firms are being affected by renovation, redevelopment, and future construction plans, particularly in the Vieux Carré or old town areas. This situation presents an opportunity to further improve the desirable and eliminate the inadequate and thus reduce marketing costs to producers, wholesalers, and consumers.

As in many other urban areas, New Orleans has inadequate facilities, firms in scattered locations, traffic congestion with resultant parking problems, and poor access to major arterial highways, all of which tend to offset the savings possible from modern, efficient facilities. To maintain a competitive position and serve an expanding market, all firms should be willing to make the necessary adjustments. In a highly competitive food-marketing situation, a firm should seek improved facilities and handling methods to maintain its position.

TABLE 3.—*Tenure status and space occupied by 103 selected wholesale food firms, New Orleans, 1972*

Type of firm	Primary facilities ¹				Secondary facilities ²	Total space occupied
	Own		Rent			
	Firms	Space	Firms	Space		
	<i>Number</i>	<i>Square feet</i>	<i>Number</i>	<i>Square feet</i>	<i>Square feet</i>	<i>Square feet</i>
Fresh fruits and vegetables-----	13	304, 247	13	403, 303	18, 500	726, 050
Meat and meat products-----	8	202, 942	14	141, 027	5, 000	348, 969
Poultry and eggs-----	6	169, 400	6	21, 170	0	190, 570
Dairy products (fluid milk)-----	10	325, 851	1	9, 900	77, 665	413, 416
Groceries-----	10	191, 125	6	156, 375	4, 500	352, 000
Frozen foods-----	4	137, 600	2	95, 620	30, 800	264, 020
Fish and shellfish-----	4	25, 163	6	24, 177	3, 100	52, 440
Total-----	55	1, 356, 328	48	851, 572	139, 565	2, 347, 465

¹ Principal place of business.

² Used in support of main facilities.

Inadequate Facilities

Many wholesale food facilities are unsuited for efficient food-handling operations. Crowded conditions often result in the lack of adequate work areas or storage space. The lack of sufficient refrigeration necessitates using secondary facilities and public warehouse space or maintaining inadequate inventories. Many firms lack expansion space, or possible expansion areas may be prohibitively expensive. Often firms have adequate space but fail to efficiently utilize it.

The structural design of certain facilities is such that the use of mechanized materials handling equipment could result in excessive remodeling costs with little return on investment. Firms with wooden floors are not able to use such materials handling equipment. Low ceilings in old warehouse buildings or converted residences prevent the use of high stacking equipment to store products or supplies. Such restrictions result in the excessive use of manual labor.

Processing operations are often carried on in crowded facilities, where maintaining sanitation becomes a problem. This causes firms to remodel, abandon operations, or operate under less than desirable conditions, where health and sanitary conditions are questionable.

Often firms completely outgrow certain sections of their facilities that are at least partly suitable for efficient operation. This situation results in the use of upper floors, which are served by slow freight elevators or stairways. In extreme situations, secondary facilities several miles from the primary facility are required.

In many facilities, loading and receiving platforms are nonexistent, and the sidewalks or adjacent narrow streets at ground level provide space for costly loading and unloading operations. In other facilities, sufficient loading and unloading areas are not available, and this results in costly delays or moving merchandise by handtrucks from scattered locations.

Most firms that are heavy rail users are served directly by rail, but some must use team tracks for rail receipts some distance from their primary facility. Often railcars arrive at a central point for distribution to the individual wholesalers by freight forwarders.

Working conditions in the newer facilities are mostly adequate, whereas in the older facilities

they are generally less than satisfactory. Most firms attempt to provide as adequate working conditions as possible.

Pilferage is a major problem because the fragmented nature of many facilities precludes proper control of operations. Security also is a major problem because of the location of many firms.

Parking is a serious problem when a firm is located on a street that becomes a major traffic artery during certain periods of the day, particularly in the downtown areas. Many wholesale firms are located where there is constant competition for a limited number of available parking spaces, and either the buyer or the firm's truck is forced to park some distance from the facility.

Many firms are in areas where food operations can no longer be carried on economically. Often low rent districts present major security problems, and there is constant competition for parking with residents in the vicinity. Trash collection, refrigeration, and maintenance are costly to firms in widely scattered locations. Split operations are expensive for transportation companies when railcars or trucks are delayed for unloading or loading. Truckdrivers must spend costly time seeking a firm's location. Distribution costs are often higher because some firms are located where trucks are delayed by traffic conditions.

Traffic Congestion

Traffic congestion represents a major problem in the French Market because of narrow streets and lack of parking space. It is also a problem faced by many scattered firms because of narrow streets, nonrelated traffic, or traffic restrictions that affect their operations. Congestion results in excessive delay to incoming and outgoing vehicles, double parking, general traffic confusion, overtime pay, and added delivery costs.

Poor Access to Arterial Streets

Because of its location on the Mississippi River and its configuration, New Orleans has problems with streets and arterial highways, particularly to the west bank of the river. Because of its location within the city, a firm may be subject to unnecessary delay by bridge and canal traffic. Many arterial streets too narrow for maneuvering large trucks cause extensive detours and costly delays in

getting food products to and from the city. This situation is particularly prevalent in the Vieux Carré or in the vicinity of port facilities.

Firms That Would Benefit From New Facilities

Fifty-four of the 103 firms interviewed need new facilities in the immediate future. Some of these firms have suitable buildings but must move because of urban renewal and rehabilitation programs. Other firms require new facilities because they can no longer operate efficiently in their existing buildings or because they lack space to handle expanding sales volumes. The dairy firms do not urgently need new facilities in the immediate future but are prime candidates at a later date. For this reason, they are not included in further analysis in this report.

The following discussion is limited to the 54 candidate firms (table 4), which could provide the initial development of the New Orleans regional food distribution center. The present location of these firms is shown in figure 11.

Of the candidate firms, 39 rent and 15 own their primary facilities, or a greater than 2:1 ratio of tenants to owners. Many firms either own or rent secondary facilities. The 54 firms occupy a total of 490,626 square feet of primary and secondary floorspace and employ 995 people.

Flow of Commodities Through Candidate Firms

Direct Receipts and Interwholesaler Transfers

The flow of food commodities through the candidate firms is shown in figure 12. Direct receipts in tons amounted to 218,844 by truck, 42,466 by rail, and 2,500 by boat or air, totaling 263,810.

Some of the interwholesaler transfers took place among candidate firms and between candidate and noncandidate firms. The exact origin of this type of transfers could not be determined. However, in this study all interwholesaler transfers were considered separate from direct receipts and carried as a separate item. Interwholesaler transfers totaled 4,323 tons.

Volume Handled

The tonnage handled by candidate firms is the sum of direct receipts and transfers between whole-

salers. Thus, the volume handled totaled 268,133 tons. The amounts for the specific firms are given in table 4.

Distribution

The tonnage distributed was made up of direct receipts and amounted to 263,810 tons. Of this volume, 230,486 tons were delivered by the wholesaler and 33,324 were picked up by the customer at the wholesaler's facilities.

Of the total tonnage distributed, 13 percent was picked up at the wholesaler's facilities, 12 percent was delivered by the wholesaler outside the metropolitan area, 71 percent was delivered within the metropolitan area, and 4 percent was delivered outside the State.

The New Orleans metropolitan area was divided into the following areas to analyze the distribution from the wholesalers' facilities: Central, northeast, southeast, southwest, and northwest. The boundaries are given in Methodology and Cost Comparisons (appendix III). The percent volume distributed in the metropolitan area was central 51, northeast 14, southeast 6, southwest 5, and northwest 24.

Type of Customer

Of the direct receipts, institutional outlets, restaurants, and retail stores received 75 percent, corporate chainstores and affiliated wholesale firms 13 percent, other wholesale firms 9 percent, and other firms 3 percent. Table 5 shows the tonnage by commodity group.

Cost of Handling and Distributing Food Through Present Facilities

For firms needing new facilities, selected measurable costs were estimated for moving commodities from points of initial receipt to the firms' facilities, handling at the facilities, other facility costs, and distribution. These costs were confined to those expected to be affected by improvements in facilities and operating methods and are shown in table 6. For detailed data, see Methodology and Cost Comparisons (appendix III).

The charges for moving commodities from point of initial receipt to the firms' facilities included cartage, interwholesaler transfers, and avoidable delay. These costs totaled \$340,112 or \$1.27 per ton.



FIGURE 11.—Location of candidate firms.

FLOW OF COMMODITIES (TONS), 1972

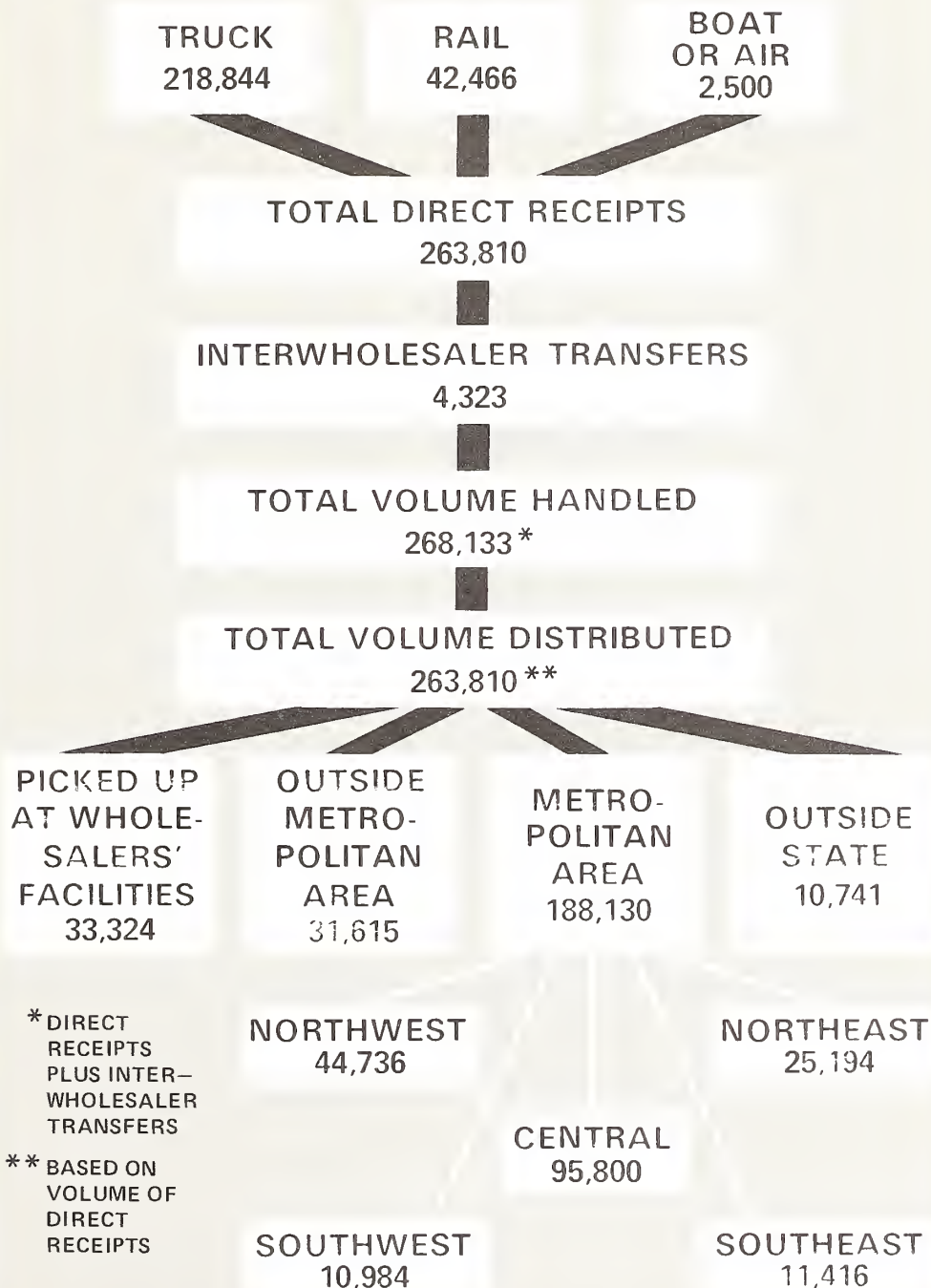


FIGURE 12.—Flow of commodities through candidate firms.

TABLE 4.—*Wholesale food firms expected to relocate, number of employees, volume, and tenure status, New Orleans, 1972*

Type of firm	Firms	Employees	Total volume handled	Tenure	
				Own	Rent
	<i>Number</i>	<i>Number</i>	<i>Tons</i>	<i>Number</i>	<i>Number</i>
Fresh fruits and vegetables.....	20	375	138, 594	6	14
Meat and meat products.....	12	318	43, 086	3	9
Poultry and eggs.....	6	51	9, 105	-----	6
Groceries and frozen foods.....	10	195	65, 278	5	5
Fish and shellfish.....	6	56	12, 070	1	5
Total.....	54	995	268, 133	15	39

TABLE 5.—*Type of customer served by candidate wholesale food firms, New Orleans, 1972*¹

Type of firm	Institutional outlets, restaurants, and retail stores	Corporate chainstores and affiliated wholesale firms	Other wholesale firms	Other firms	Total
	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>
Fresh fruits and vegetables.....	89, 124	28, 793	12, 340	6, 855	137, 112
Meat and meat products.....	29, 682	4, 240	8, 481	0	42, 403
Poultry and eggs.....	6, 705	447	1, 519	270	8, 941
Groceries and frozen foods.....	64, 240	-----	-----	-----	64, 240
Fish and shellfish.....	8, 335	1, 111	1, 668	-----	11, 114
Total.....	198, 086	34, 591	24, 008	7, 125	263, 810

¹ Based on direct receipts.

Cartage costs consisted of charges for loading commodities into trucks from commercial warehouses, team tracks, piers, or airports and delivering them to the firms' facilities. In New Orleans the cartage function was generally performed by the receiving firms using their own trucks. Inter-wholesaler transfer costs included charges for a truck and driver and delay time; in areas where handtrucks were used, only labor costs were allocated.

Avoidable delay consisted of actual delay time experienced by truckdrivers during movement in unloading within market areas or waiting for unloading at selected facilities. These delays were caused by traffic congestion, traffic conditions, or

lack of unloading space. These costs have been applied only to the specific volume.

Transportation costs of moving products to the market are not included in this report.

The charges for moving through the facilities consisted of costs of unloading trucks and railcars, handling within the facilities, and loading trucks. These costs totaled \$2,055,039 or \$7.66 per ton.

Charges for unloading incoming vehicles consisted of labor costs for moving receipts of all types from trucks or house tracks, platforms, and sidewalks to their storage location in the facility. They did not include the cost of the truckdriver or unloading assistance not directly attributable to the firm.

TABLE 6.—*Estimated annual costs of moving food commodities to, through, and from present wholesale market facilities, New Orleans, 1972¹*

Commodity	Moving through facilities						Moving from facilities					
	Moving to facilities			Labor			Nonlabor			Volume		
	Volume	Cost per ton	Total cost	Volume	Cost per ton	Total cost	Volume	Cost per ton	Total cost	Volume	Cost per ton	Total cost
	Tons	Dollars	Dollars	Tons	Dollars	Dollars	Tons	Dollars	Dollars	Tons	Dollars	Dollars
Fresh fruits and vegetables.....	138,594	0.68	93,572	138,594	5.58	773,354	138,594	8.47	1,173,655	88,419	8.91	787,716
Meat and meat products.....	43,086	.72	31,149	43,086	10.71	461,722	43,086	16.19	697,450	31,321	16.37	512,710
Poultry and eggs.....	9,105	.34	3,091	9,105	6.91	62,943	9,105	7.47	67,979	6,937	18.57	128,796
Groceries and frozen foods.....	65,278	2.92	190,463	65,278	10.53	687,376	65,278	9.74	635,730	53,336	12.61	672,471
Fish and shellfish.....	12,070	1.81	21,837	12,070	5.77	69,644	12,070	8.77	105,891	8,117	8.57	69,596
Total or average.....	268,133	1.27	340,112	268,133	7.66	2,055,039	268,133	10.00	2,680,715	188,130	11.54	2,171,289
												263,810
												27.47
												7,247,145

¹ For detailed breakdown, see table 14 (appendix III). Costs unaffected by move to new facilities are excluded. Volume moving to and through facilities is based on total volume handled. Volume moving from facilities is based on distribution within the metropolitan area. Volume used to calculate total cost per ton is based on direct receipts.

Handling costs within the facility consisted of labor costs for order assembly and rehandling within the firm or secondary facility.

Cost of truck loading consisted of labor costs for moving the products from the order assembly area, sidewalk, or platforms. If the firms' truck-drivers assisted in loading, their labor was included as a part of the loading costs.

Other associated costs included those for facility services, handling equipment, waste, theft, and deterioration, as well as facility rental. They totaled \$2,680,715 or \$10 per ton.

Facility-related costs included fire insurance and extended coverage and liability, extermination services, security services, and garbage removal. Although these items are associated with the facilities, those costs are additional to rental costs.

Cost of handling equipment used consisted of annual ownership and operating expenses of equipment, exclusive of labor, used in facility handling operations.

Costs of waste, theft, and deterioration included the value of products lost in the wholesaling operations. The reduction in the value of the salvage products was included as part of the deterioration cost.

Facility rental cost consisted of the annual rent paid by the wholesalers for use of their facilities. It included facility maintenance and repairs as well as real estate taxes. For the wholesaler-owner, a factor for profit was allowed in determining estimated rental cost.

The distribution cost of moving food products from facilities amounted to \$2,171,289 or \$11.54 per ton. It included vehicle ownership and operation, unloading, and drivers' time.

The total selected costs of moving products to, through, and from the candidate firms totaled \$7,247,145 or \$27.47 per ton. The cost of customer pickup and distribution outside the metropolitan area was not included in this study.

As shown in table 6, the total cost of moving commodities to, through, and from wholesale facilities varied by the commodity. It ranged from \$40.16 per ton for meat and meat products to \$20.63 per ton for fresh fruits and vegetables. For the five commodities the average cost was \$27.47 per ton.

HOW FOOD DISTRIBUTION CAN BE IMPROVED

Planning a Wholesale Food Distribution Center

The wholesale food distribution system in New Orleans can be improved by constructing a regional food distribution center to serve wholesalers needing new facilities. This center would be designed, organized, and planned for the specific purpose of wholesaling food. A complete regional food distribution center for New Orleans should be designed to be constructed in several stages. The first stage of development would provide space for wholesalers with an immediate need for new facilities. Subsequent stages could then accommodate firms with less immediate needs. Space could be made available during each stage of development for auxiliary facilities, such as dry storage warehouses, public refrigerated warehouses, banks, offices, truck service centers, and allied industries.

The buildings in the food center should be designed to meet the requirements of the wholesale firms. Ample space should be provided for unloading, processing, storage, sales, assembly, loading, and expansion of the individual facilities.

Since technology is changing rapidly in the food industry, each type of wholesale unit should be simple, functionally designed, and capable of being modified to meet future requirements of a food center. The facilities on a site should be carefully arranged so that firms catering to the shopping trade are located where traffic generated by their operations would least interfere with normal market traffic. Similarly, firms receiving large volumes by truck should be able to unload their trucks with a minimum of traffic interference.

Proposed Facilities

The facilities recommended are based on the present volume of the candidate firms. When the center is constructed, the actual number and size of the buildings should be based on the space required by the firms that sign the leases. Caution is needed to prevent overbuilding. Since some firms do not immediately need new facilities, they should be considered as candidates for later development.

Multiple-occupancy and single-occupancy buildings are recommended for the proposed center. The former is designed to be shared by several

firms, and the latter is designed to meet the needs of one specific firm. Most of the firms using single-occupancy buildings would have larger annual sales volumes or space requirements than their counterparts using multiple-occupancy buildings. Specific recommendations and examples of interior layout are presented for both types of buildings. Certain specialized buildings and auxiliary facilities are also discussed.

For its initial development, the center would house 54 wholesale firms handling 263,810 tons of food annually. In addition, a structure should be provided to replace the wholesale farmers' market in the Vieux Carré. Table 7 summarizes the candidate firms by commodity, their present and proposed floorspace, and the number and type of buildings. To meet their needs the 54 firms would require 4 multiple-occupancy buildings with 210,000 square feet of first-floor space and 9 single-occupancy buildings with 312,000 square feet of first-floor space. A specialized structure for the farmers' market would need 16,800 square feet. In addition, space would be required for a central refrigeration plant.

Multiple-Occupancy Buildings

Multiple-occupancy buildings resemble modern warehouse and processing facilities. Each building is 100 feet long but may be several hundred feet wide. Depending on the need of the tenants, the building may have an open continuous platform (fig. 13) or may be completely enclosed (fig. 14).

The multiple-occupancy building is divided into 30-foot-wide units. They are separated from each other by temporary floor-to-ceiling partitions, which may be removed to combine units. Each unit allows stacking to a height of 21 feet from the floor except under the mezzanine. Figure 15 shows a unit with pallets and pallet racks.

The building floors are level with the floors of railcars and trucks. The platform or sills of exterior doors intended for truck operations are 45 inches above ground level. Sills of doors intended for rail-receiving operations can be either 45 or 55 inches above ground level depending on the type of railcar used. Nonrefrigerated and refrigerated

TABLE 7.—*Number of wholesale food firms relocating, present and proposed space, and type of facility recommended, New Orleans, 1972*

Type of firm	Firms	Floorspace		Proposed space	
		Present	Proposed ¹	Multiple-occupancy units	Single-occupancy buildings
	Number	Square feet	Square feet	Number	Number
Fruits and vegetables.....	20	140, 065	198, 000	² 27	3
Farmers' market.....			16, 800	(³)	
Meat and meat products.....	12	132, 921	121, 700	22	2
Poultry and eggs.....	6	23, 470	18, 000	6	
Groceries and frozen foods.....	10	163, 620	116, 400	10	3
Fish and shellfish.....	6	30, 550	67, 900	5	1
Total.....	54	490, 626	538, 800	70	9

¹ First floor only.² Includes 1 unit for restaurant.³ Covered platform area.

railcars require door sills 45 to 55 inches, respectively, above the ground.

Other design features are incorporated in multiple-occupancy buildings to make the facilities compatible with their intended uses. Open platforms are sloped for drainage. Platform edges and doors for truck operations are protected from backing vehicles by vertical bumper strips. First floors are of concrete and designed for their anticipated use. Freezer floors require additional sub-slabs.

A 20-foot wide mezzanine extends across the front of the building. It is intended for offices, restrooms, lunchrooms, lockers, and light storage. Some firms may require that the mezzanine be ex-

tended to form a complete or partial floor for heavy storage.

Single-Occupancy Buildings

Each single-occupancy building in the proposed food center will be designed to meet the needs of the tenant firm. Figure 16 shows a typical single-occupancy building.

Certain features of exterior doors in single-occupancy and multiple-occupancy buildings will be similar. The height of exterior door sills is dependent on whether the entrance will be used by trucks, conventional railcars (45 inches above ground level), or refrigerated railcars (55 inches

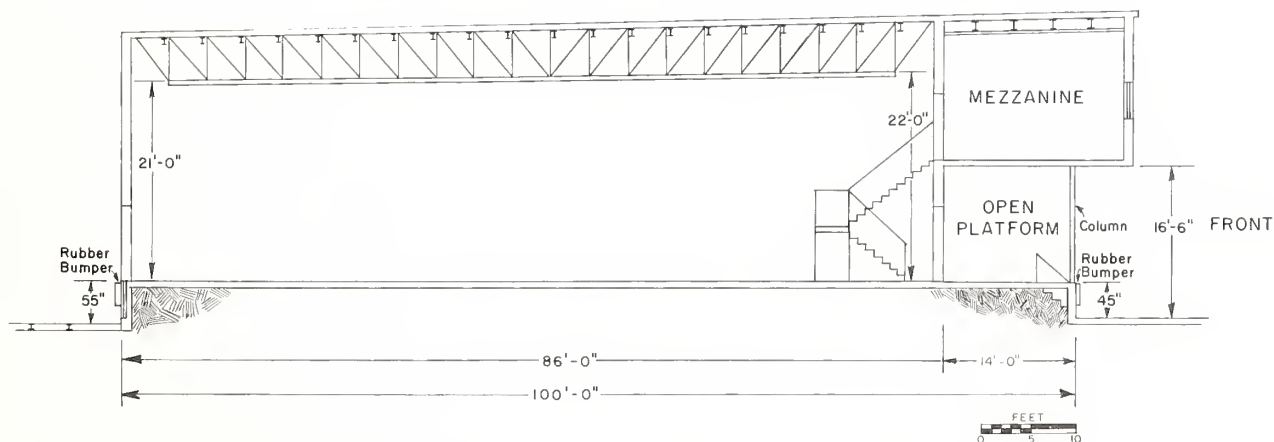


FIGURE 13.—Multiple-occupancy building with open platform.

above ground level). Vertical bumpers protect doors from backing trucks.

Offices, restrooms, lunchrooms, and employee lockers could be located on the mezzanine, which

is usually above the receiving and loading platforms.

The floors should be of concrete or other water-impervious material with a smooth surface to fa-

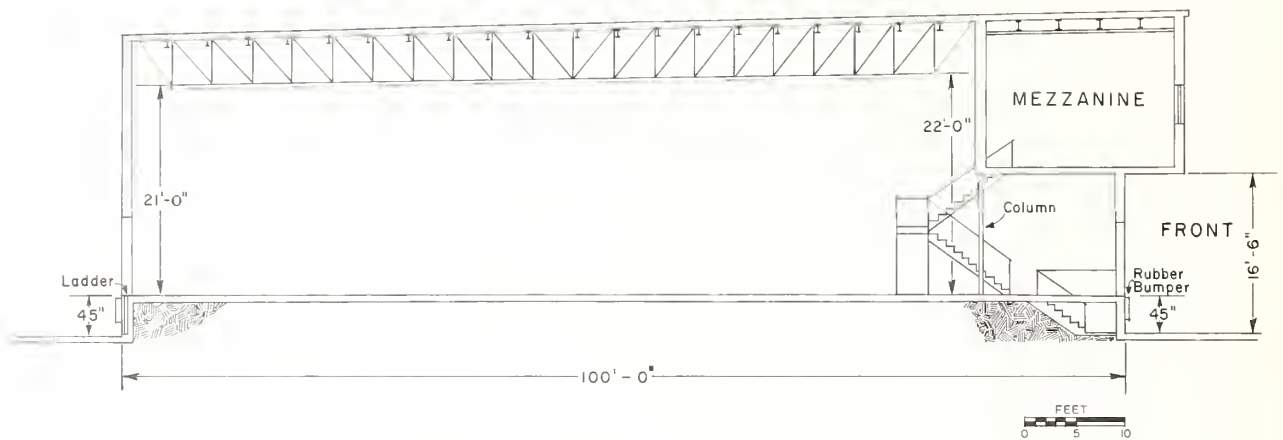


FIGURE 14.—Multiple-occupancy building enclosed.



FIGURE 15.—Artist's conception of the interior of a multiple-occupancy building.



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FIGURE 16.—Artist's conception of a single-occupancy building.

facilitate cleaning. Floor drains should be provided as needed. The ceilings should be high enough to allow for a minimum of 21 feet of clear space where pallet racks will be used.

Lighting should be adequate throughout. Warehouses require approximately 10- to 15-foot candles.⁴ However, the mezzanine should have brighter illumination.

Farmers' Market Facility

The farmers and small produce wholesalers will need a structure containing 16,800 square feet of covered platform, which will provide space for 45 open stalls, an office, restrooms, and utility area. The complete structure would be 240 feet long

and 70 feet wide. A continuous 22-inch-high step, 18 inches wide along the 45-inch-high platform, would allow both small and large trucks to be unloaded or loaded efficiently. Stairs at each end of the platform would provide pedestrian access from the street (fig. 17).

Description of Proposed Facilities

Fresh Fruits and Vegetables

The 20 fresh fruit and vegetable firms require 1 multiple-occupancy building and 3 single-occupancy buildings.

Twenty-seven units in the multiple-occupancy building, or 81,000 square feet of first-floor and 16,200 square feet of mezzanine space, are used for fresh fruit and vegetable firms, and 1 unit in the building is provided as a restaurant. The building is completely enclosed except for a 14-foot-wide continuous open platform along the front. Each unit contains 3,000 square feet of

⁴ All lighting estimates are based on information from the "IES Lighting Handbook, the Standard Lighting Guide," by the Illuminating Engineering Society, ed. 4, edited by John E. Kaufman, v. 1, New York, 1966. These estimates should be considered only as guides to specific lighting requirements of individual firms.

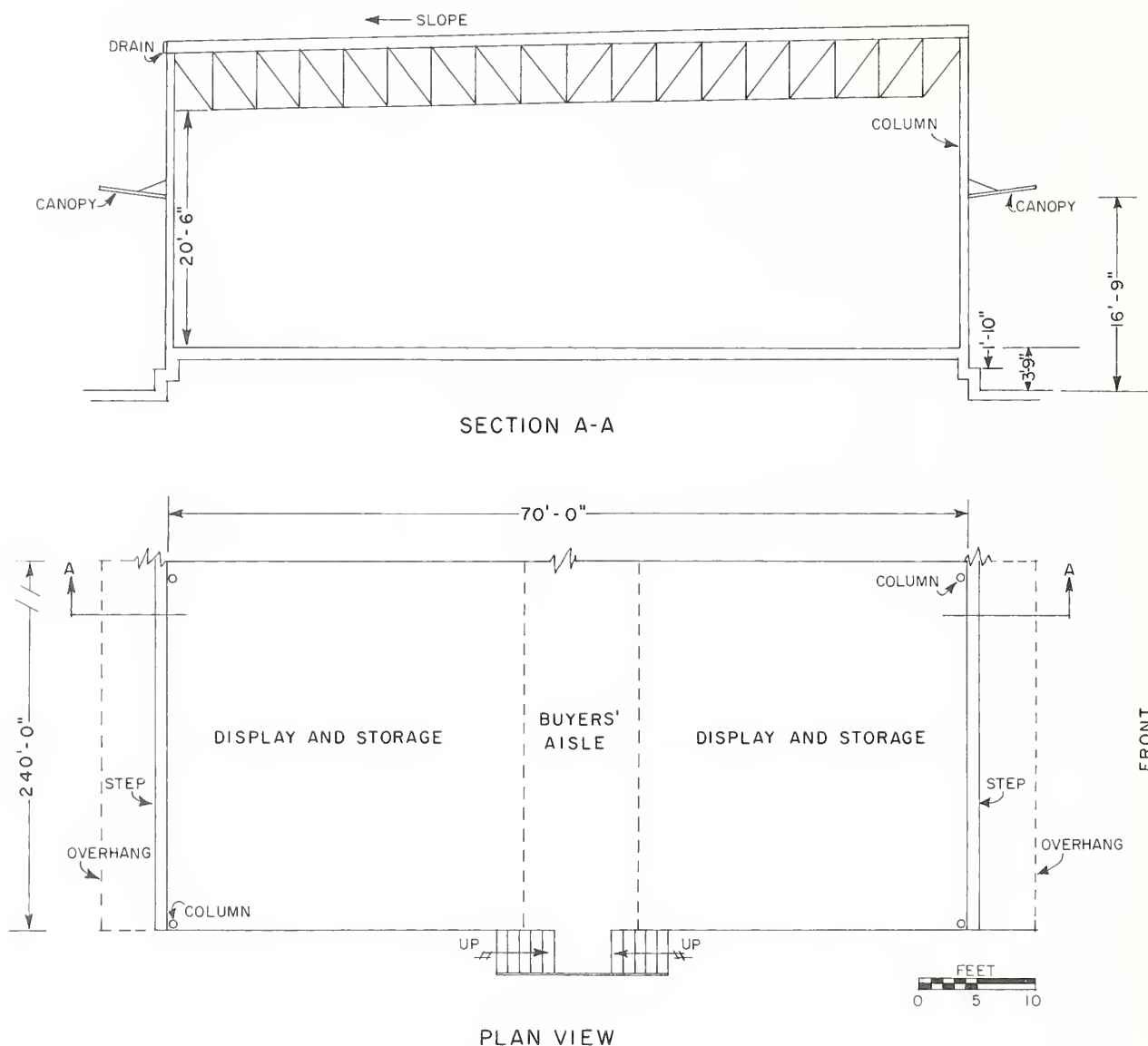


FIGURE 17.—Farmers' market building.

first-floor space, including the platform, and 600 square feet of mezzanine space. The mezzanine is for offices, restrooms, lunchrooms, and light storage. Figure 18 shows one possible layout of a fresh fruit and vegetable unit in a multiple-occupancy building.

The continuous platform at the front of the unit should be 45 inches above the street. The sills of the rail-receiving doors at the rear of the unit should be 55 inches above the top of the rails to accommodate refrigerated railroad cars.

Much of the interior of the unit would be re-

frigerated. To maintain proper temperatures, doors at the rear should be equipped with door seals to close off the space between vehicle and building.

The interior layout is arranged for flexibility of storage and handling. Refrigerated sections of the unit have direct access to rail facilities. Assembly areas are arranged to minimize product movement to waiting trucks.

Since drainage is essential throughout much of the first floor, adequate floor drains should be provided.

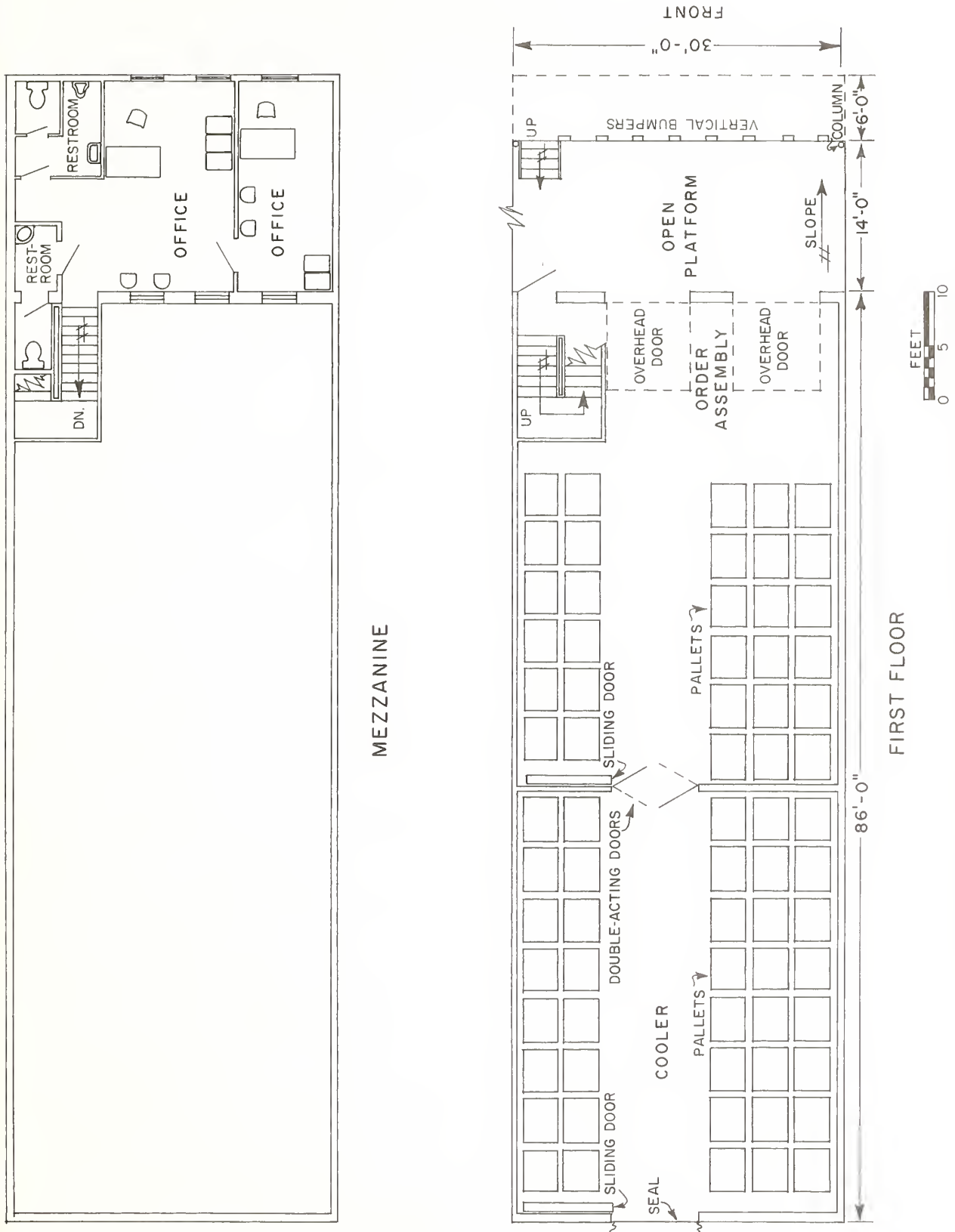


FIGURE 18.—Layout of a fresh fruit and vegetable firm in a multiple-occupancy building unit.

Three single-occupancy buildings are required. They would contain 62,500, 28,900, and 25,600 square feet of first-floor space. Figure 19 shows a suggested layout for a single-occupancy fresh fruit and vegetable building.

The layout in this illustration is designed for a firm handling a full line of produce and a limited volume of frozen food. Three large coolers and a freezer provide the flexibility in storage capacity to permit the firm to handle these varied lines.

All areas of the warehouse are arranged to allow easy movement between them. This arrangement allows flexibility in order selection and permits a U-shaped flow of products, assuming truck receiving and shipping. When rail receiving is employed, the interior arrangement allows straight through movement of incoming products. The freezer is located to allow adjoining coolers to be used as a vestibule.

All operational areas of the warehouse are on the first floor; support activities are on the mezzanine over the truck-receiving and shipping area at the front of the warehouse. The interior storage areas should be designed to allow a minimum of 21 feet of clear stacking height. A minimum of 9 feet of clear space should be available under the mezzanine so that forklift trucks can operate efficiently.

The warehouse is designed for extensive use of pallet racks in order to make efficient use of cubic space. Since frozen food items are handled in small quantities, a small pallet is typically used for storing this commodity. Large pallets are used for storing individual produce items, which are usually handled in larger quantities.

Several additional areas of the layout are for support activities. A truck-receiving and shipping area that can accommodate five trucks is for unloading incoming trucks, temporary storage of incoming merchandise, assembly of outgoing orders, truck loading, pallet storage, and charging forklift truck batteries. A restroom, an equipment room, and an office complete the first floor. The mezzanine is served by stairs leading from both the ground level and the floor of the warehouse. Offices, restrooms, and an employee lunchroom are on the mezzanine.

Meat and Meat Products

The 12 meat firms require part of a multiple-occupancy building and 2 single-occupancy buildings.

The 22 units of the multiple-occupancy building would contain 135,960 square feet on 2 floors with 66,000 square feet on the first floor and 69,960 on the second floor. The building is completely enclosed. A unit would contain 3,000 square feet of first-floor space and 3,180 square feet of second-floor space. The second floor is for offices, a lunchroom, restrooms, and storage area. Ceilings should be 12 and 8 feet high on the first and second floors, respectively. Figure 20 shows a possible layout of a meat and meat products unit in a multiple-occupancy building.

The front shipping and rear receiving areas should be 45 inches above the street.

Meat rails could be supported from the first floor on steel columns—not suspended on rods attached to the second floor. The second floor could be used for light storage. A future conversion from shipments of carcass meat to boxed meat could eliminate the need for conventional meat rails. Therefore the second floor should be constructed so that all or part of it can be removed without damaging the basic building. Such flexibility would enable the meat firms to efficiently handle palletized boxed meat by stacking the product three tiers high within their one-floor refrigerated facilities. Thus, the proposed facility design can satisfy both present and potential future needs for handling meat products.

The storage and work areas where meat is handled are refrigerated. Therefore cooler doors, about 5 feet wide and 7 feet high with inner double-acting doors, should be installed at the front and rear of each unit. Insulation in the floor should be installed during initial construction.

Interior surfaces should be finished in accordance with the facility requirements of State and Federal meat inspection regulations, such as high-density, acid-resistant, waterproof concrete or good quality vitrified brick. Brick should be bonded with acid-resistant, waterproofed mortar and laid on a waterproof concrete base. Floors must be sloped to provide adequate drainage, with at least one drainage outlet for each 400 square feet of floorspace.

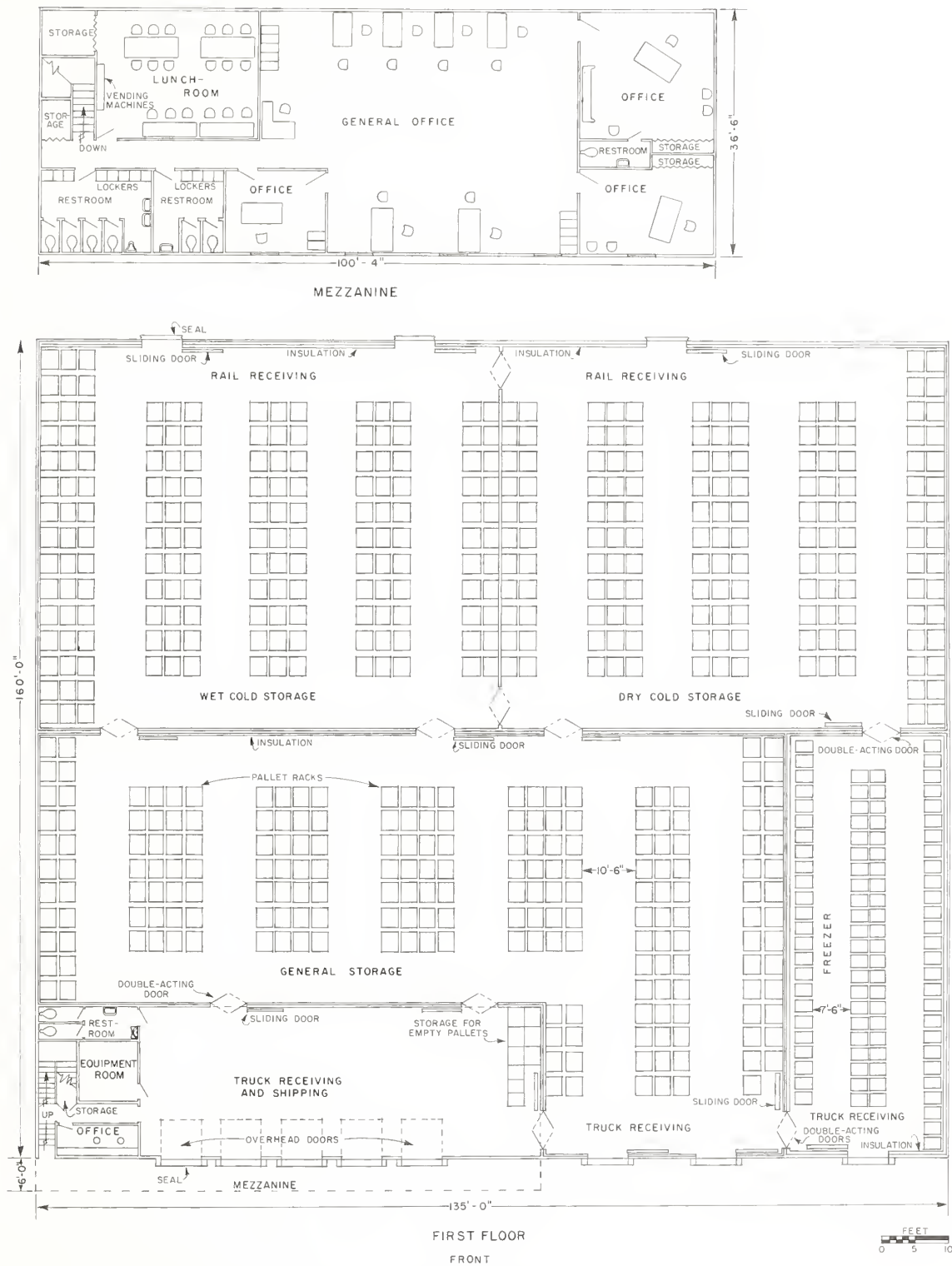


FIGURE 19.—Layout of a fresh fruit and vegetable firm in a single-occupancy building.

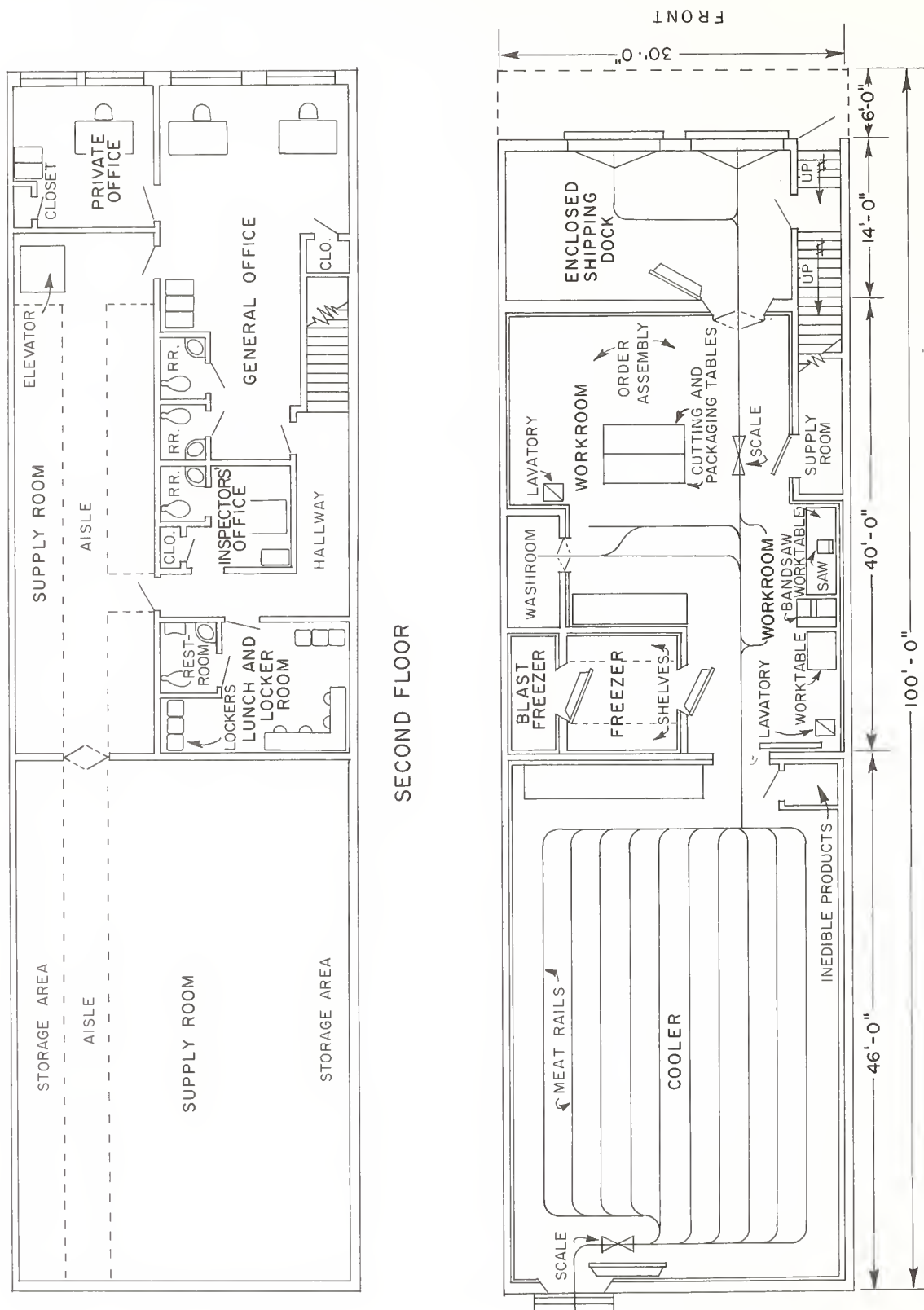


FIGURE 20.—Layout of a meat and meat products firm in a multiple-occupancy building unit.

This layout is designed to provide a U-shaped product flow for both carcass and boxed meats. It provides maximum inventory flexibility and for-

All work areas are designed for a one-floor operation. Offices, restrooms, a lunchroom, and a stor-



age supply area are located above the receiving and loading platform at the front of the building. The overall interior ceiling height in the coolers should be at least 21 feet to provide sufficient room for three-tier pallet-stacking operations and adequate space for cold air circulation. With the current trend toward shipping boxed primal meat cuts rather than carcass beef, the same ceiling height should be adopted for the carcass cooler to prevent the facility from becoming prematurely obsolete. Recommended ceiling heights for platform docks are 12 feet, and 8 feet for offices, restrooms, and the lunchroom.

Carcass cooler installations include two rail scales and an L-shaped, powered overhead conveyor, in addition to transfer and storage meat rails. Superstructure for the overhead meat rails should be supported from the floor, with removable steel columns located beside the walls of the carcass cooler. Cooler wall surfaces must be smooth, impervious to moisture, and easy to clean. Floors must be surfaced with skidproof finishes to help prevent accidents. They must also be acid resistant, waterproofed, and sloped to drains, with one drainage outlet for each 400 square feet of floorspace.⁵

Equipment installations for the boxed meat cooler include three-tiered drive-in pallet racks as well as conventional racks aligned and arranged for maximum space utilization and efficient order packing. Live-storage installations with gravity-flow shelving and a separate loading aisle are provided for low volume items. Mobile platform scales are also shown in this cooler room. A separate freezer room with drive-in pallet racks is contained within the boxed meat cooler for minimum cold temperature loss during product transfer.

Poultry and Eggs

The six poultry and egg firms require six units of a multiple-occupancy building, totaling 18,000 square feet of first-floor and 3,600 square feet of mezzanine space. Each unit is completely enclosed. A unit would contain 3,000 square feet of first-floor and 600 square feet of mezzanine space.

⁵ For sanitary meat-inspection requirements for a facility to be granted USDA approval to store and handle federally inspected meat, refer to "U.S. Inspected Meat Packing Plants, A Guide to Construction, Equipment, Layout," U.S. Dept. Agr. Agr. Handb. 191, 73 pp. (1972).

The mezzanine would be used for offices, a lunchroom, and restrooms. Clear stacking heights in coolers are lowered to 12 feet high, because one-pallet-high storage is used to avoid contaminating products by possible dripping from overhead storage. All floors are 45 inches above the ground. Figure 22 shows a possible layout of a poultry firm in a multiple-occupancy building.

The interior of the poultry unit is designed for efficient movement of products from receiving to storage and then to order makeup. Interior arrangements are planned for efficient use of handling equipment and storage aids based on receiving at either the front or the rear of the unit. The unit is designed to allow efficient assembly and shipping operations at the front. A small freezer is located so that an adjoining cooler can be used as a vestibule.

Two small egg wholesale firms could share a single unit by dividing it with a partition. The layouts for both facilities could then be arranged for a U-shaped flow of products into and out of the facility. Both firms would receive, operate, and ship from equivalent sections of the shared unit. Figure 23 illustrates how these firms could arrange their facilities.

Both poultry and egg facilities require certain specialized features. Wall surfaces of coolers must be impervious to water to a height of 6 feet above the floor. Wall surfaces above 6 feet and the ceiling must be smooth finished with a moisture-resistant material. All floor drains should be vented and have deep seal traps. Grease traps are necessary in the poultry units. Restroom soil lines should be separated from the floor drainage system to the point where they are connected outside the building. Details of the poultry facility must comply with U.S. Department of Agriculture regulations for the inspection of poultry and poultry products.⁶

Groceries and Frozen Foods

The 10 grocery and frozen food firms require 1 multiple-occupancy building and 3 single-occupancy buildings.

The 10 unit multiple-occupancy building would contain 30,000 square feet of first-floor and 6,000 square feet of mezzanine space. The building is

⁶ "Meat and Poultry Inspection Regulations," 204 pp. Anim. and Plant Health Insp. Serv., U.S. Dept. Agr., 1973.

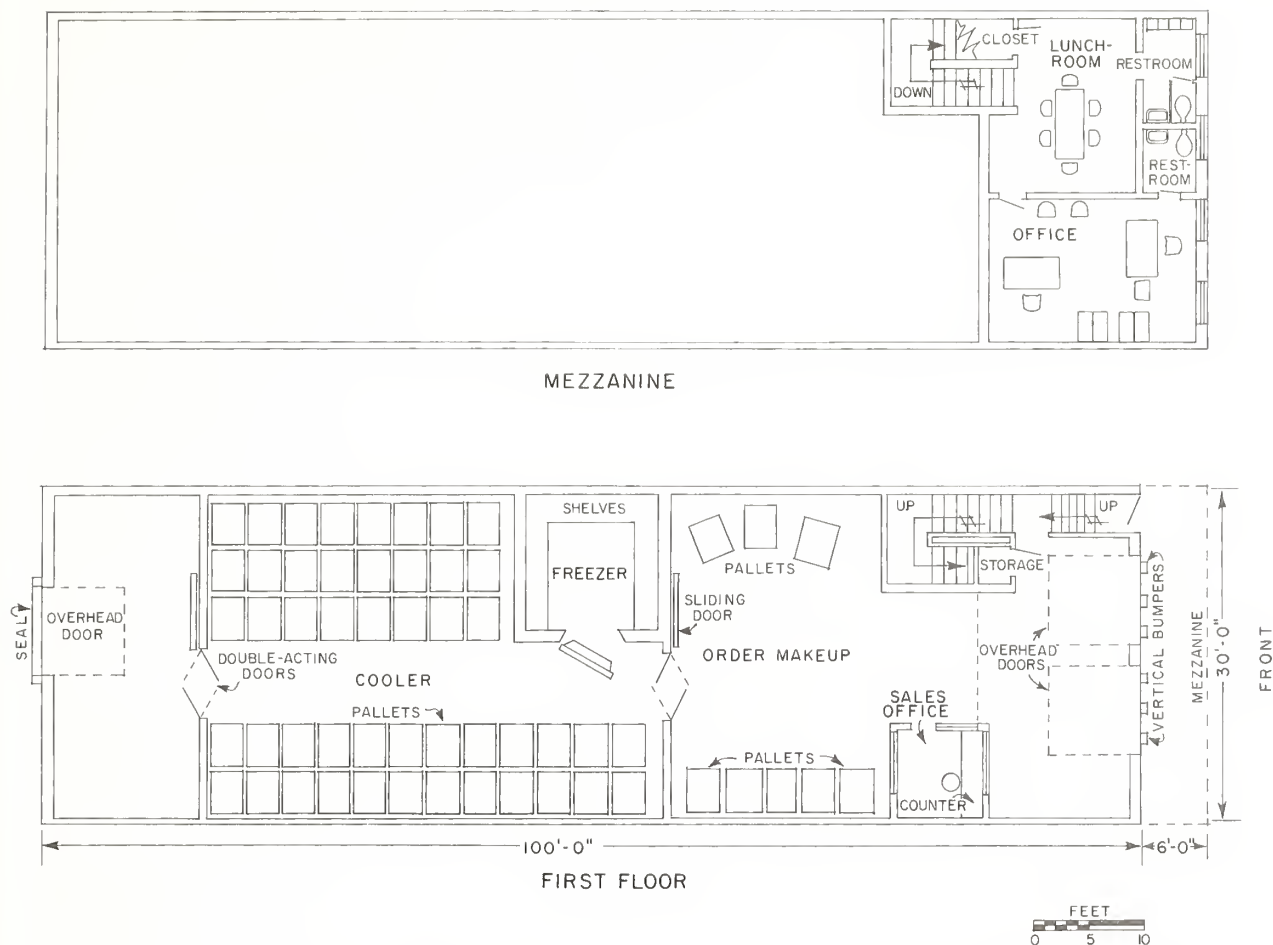


FIGURE 22.—Layout of a poultry firm in a multiple-occupancy building unit.

completely enclosed. Each unit would contain 3,000 square feet of first-floor and 600 square feet of mezzanine space. The mezzanine would be used for offices and restrooms. Floors are 45 inches above the pavement. Figure 24 shows a possible layout in two adjoining units used by a single firm.

The layout is arranged to allow modern handling equipment and storage aids to be utilized while at the same time minimizing the distances products are moved. Aisles are perpendicular to the receiving and shipping area to minimize travel distances and promote a straight through flow of rail receipts to the order assembly area at the front of the unit. The arrangement also allows efficient handling of truck receipts in a U flow from the doors at the front of the unit, to storage, and back to the same doors for assembly and loading into delivery trucks.

Frozen food firms require fully insulated units. Figure 25 shows one possible layout for a frozen food firm using a unit in a multiple-occupancy building.

The interior of the frozen food unit is designed to promote efficient use of handling equipment and storage aids while at the same time preserving comfortable working conditions. The freezer is arranged for direct access to the exterior and the order assembly area. This area is separated from the main freezer so that it can be held at a higher temperature for worker comfort during receiving operations and direct loading. A warmup room is adjacent to the order assembly area to provide a convenient place for workers to recover from exposure to the low freezer temperatures.

Three grocery firms require single-occupancy buildings with 57,600, 14,400, and 14,400 square feet of first-floor space. Figure 26 shows a possible

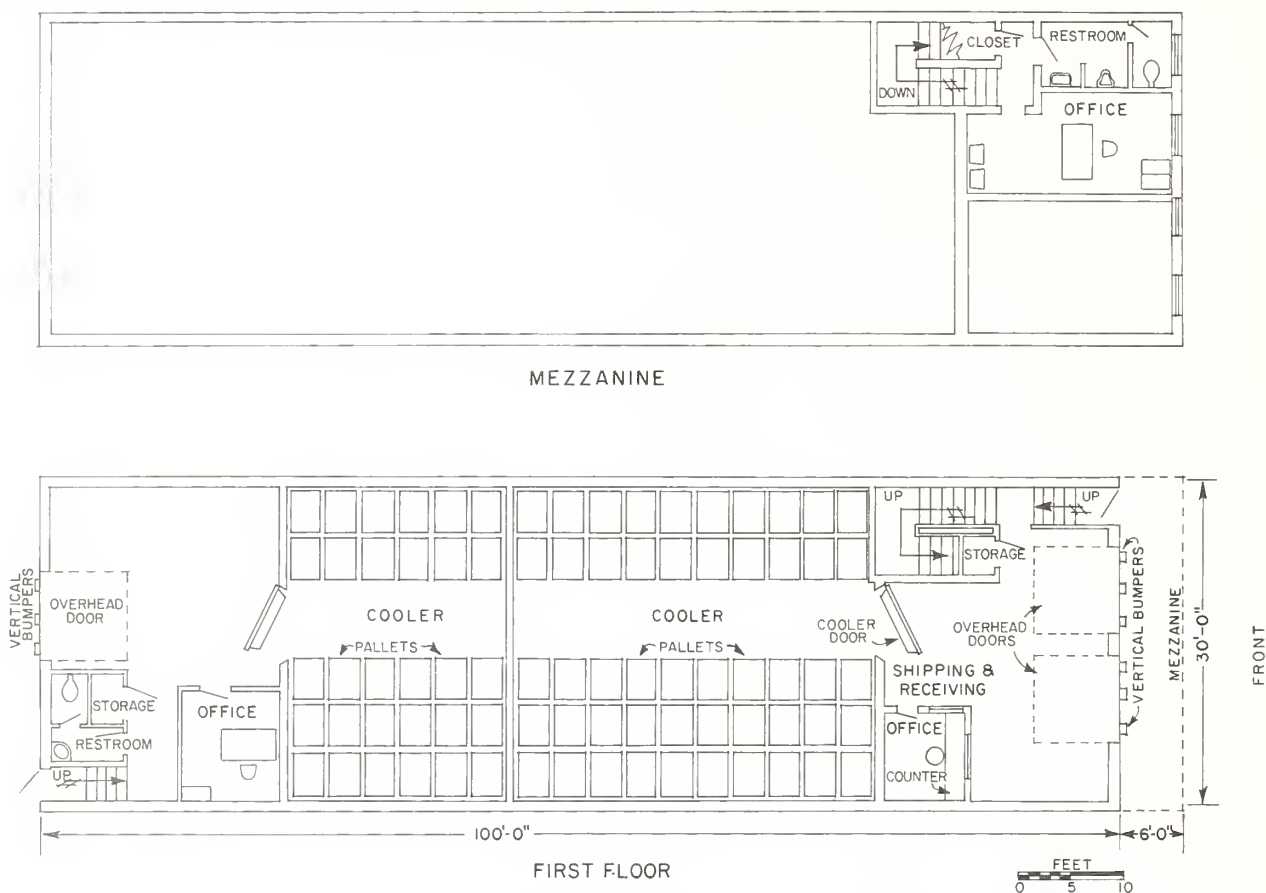


FIGURE 23.—Layout of two egg firms in a multiple-occupancy building unit.

layout for a grocery firm in a single-occupancy building.

The suggested layout is designed to provide a U-shaped product flow for truck receipts and a straight through flow of product for rail receipts. High density storage adjoins truck-receiving facilities while maintaining access to rail-receiving areas. Aisles are arranged to allow order selectors to move efficiently through the warehouse.

The ceiling height of the first floor is 21 feet to allow extensive use of pallet racks and high density storage. Ceiling heights under the mezzanine would be 9 feet and thus reduce the storage area in this part of the warehouse while permitting sufficient height for movement of forklift trucks with lowered masts. Offices, restrooms, and a lunchroom would be on the mezzanine above the loading areas.

Pallet racks are used extensively throughout the first floor. Most of them are arranged to accom-

modate from three to five pallets. Some reserve storage could be on the floor, with one loaded pallet over another.

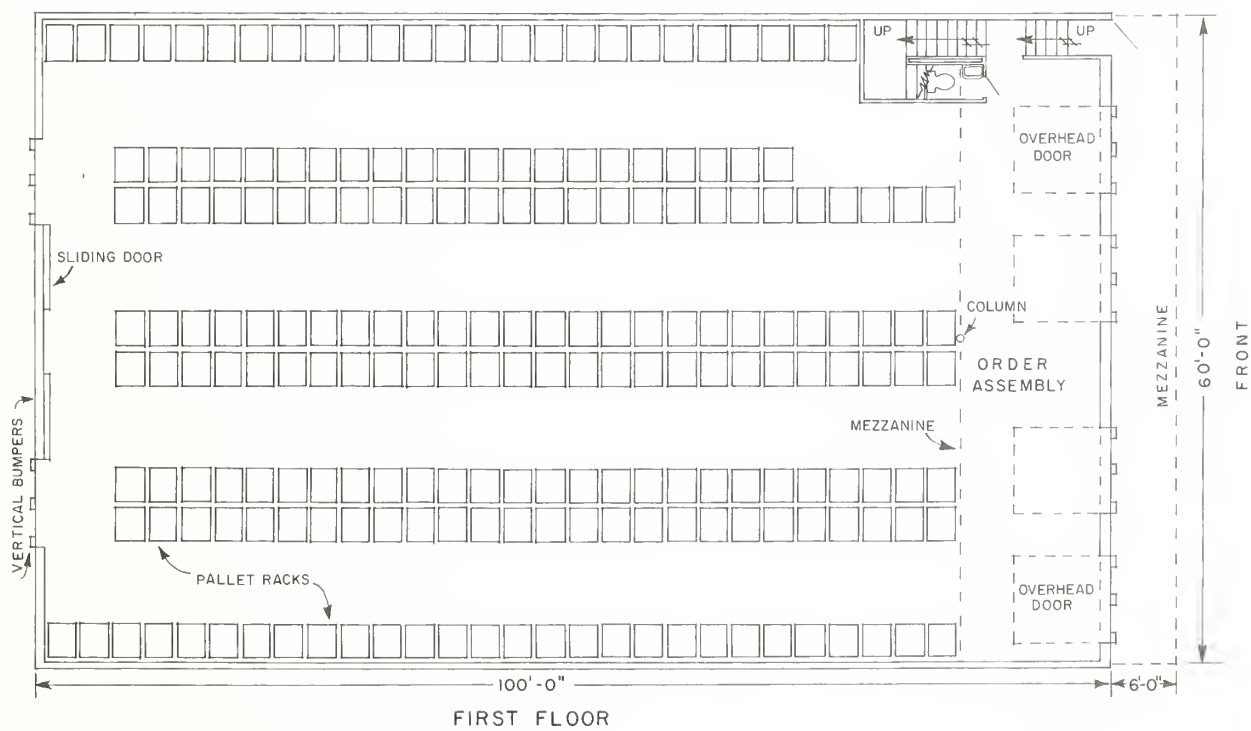
Fish and Shellfish

The six fish and shellfish firms require one multiple-occupancy and one single-occupancy building.

The five-unit multiple-occupancy building contains 15,000 square feet of first-floor and 3,000 square feet of mezzanine space. The fish and shellfish multiple-occupancy building is completely enclosed. Each unit contains 3,000 square feet of first-floor and 600 square feet of mezzanine space. The mezzanine would be used for restrooms, a lunchroom, and lockers. Individual firms could expand the mezzanine into a partial second floor. Ceilings should be 12 and 8 feet high, respectively, on the first floor and the mezzanine or partial



MEZZANINE



FIRST FLOOR



FIGURE 24.—Layout of a grocery firm in two multiple-occupancy building units.

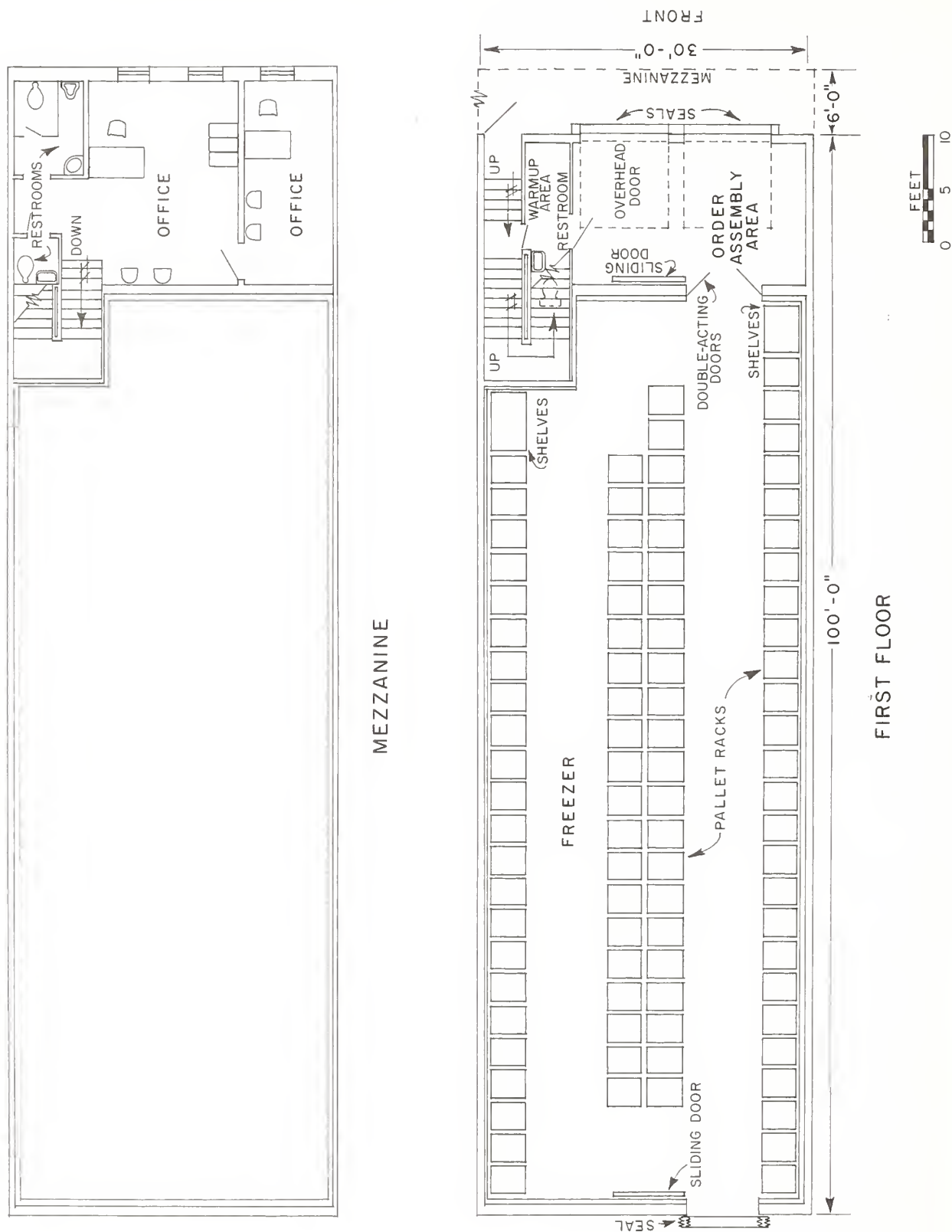


Figure 25.—Layout of a frozen food firm in a multiple-occupancy building unit.

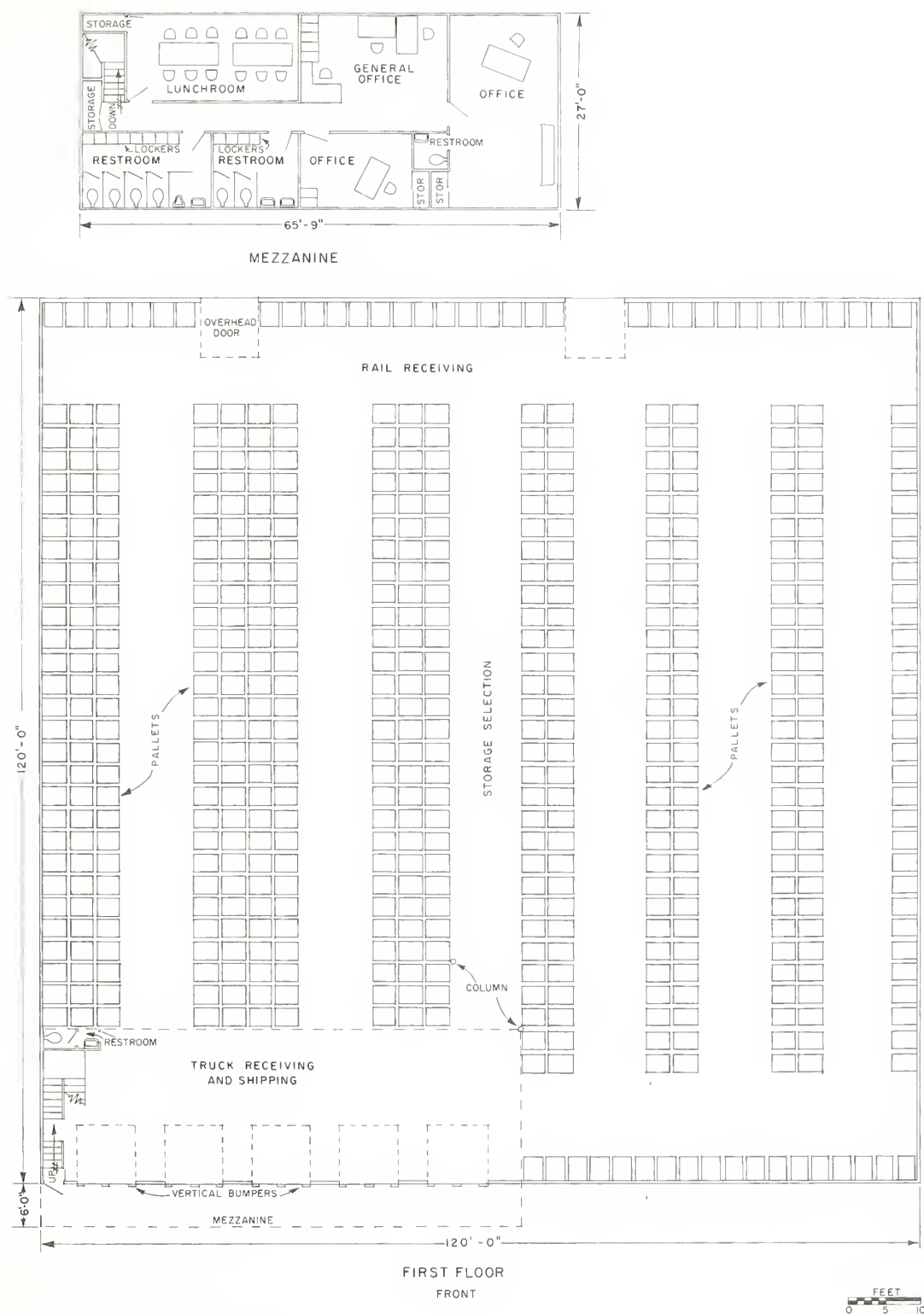


FIGURE 26.—Layout of a grocery firm in a single-occupancy building.

second floor. At least 21 feet of clear stacking height should be available in storage areas. The first floor would be 45 inches above ground level. Figure 27 shows a fish and shellfish firm in two adjoining units of a multiple-occupancy building.

This layout is designed to arrange product storage areas in close proximity to receiving, shipping, and processing areas as well as isolating processing areas from each other where this is necessary. This arrangement minimizes the distances products must be moved during receiving, order assembly, and processing.

The interior of the unit should be finished to minimize the effort required to maintain good sanitation. Floors should be sloped to provide adequate drainage, as much of the processing in this facility would require this design feature.

One fish and shellfish firm would require a single-occupancy building totaling 52,900 square feet of first-floor space.

Central Refrigeration Plant

A separate study was conducted to determine the requirements and costs for a central refrigeration system for the proposed food distribution center. A recommended plant has been described in a Department report.⁷ The system recommended for the proposed center consists of a central plant capable of supplying 6,383 tons of refrigeration, a network of pipelines to distribute refrigerants to the users, and terminal evaporator units to cool the air in each user's room. Approximately 5,100 tons of refrigeration at peak loads would be required by the initial food center development.

The central plant would require a building with approximately 9,800 square feet to accommodate equipment and service functions and an outdoor area of 6,000 square feet for distribution headers and condensing equipment. In addition, another 10,000 square feet of land are recommended for future expansion. The cost of this facility has not been included in this report. At the time of construction a determination about central refrigeration would have to be made.

⁷ "Central Refrigeration System for a Proposed Food Distribution Center for New Orleans, Louisiana." U.S. Dept. Agr. ARS-NE-26, 24 pp. 1973.

Streets and Parking Areas

Streets in the proposed center should be sufficient to handle present and anticipated traffic flow. They should be paved to carry heavy traffic and sloped to facilitate drainage away from the buildings. The roadway between the platform and center street parking medians should be 150 feet wide to allow for the maneuvering and unloading of trailers at platforms. Cross streets should be at least 30 feet wide to facilitate cross traffic flow.

Parking areas should be considered an integral part of the center and have space for expansion. Selected parking areas should be designed for use of over-the-road trucks, whereas others should be reserved for small trucks and cars. At least 500 parking spaces should be provided for all types of cars and trucks.

Railroad Facilities

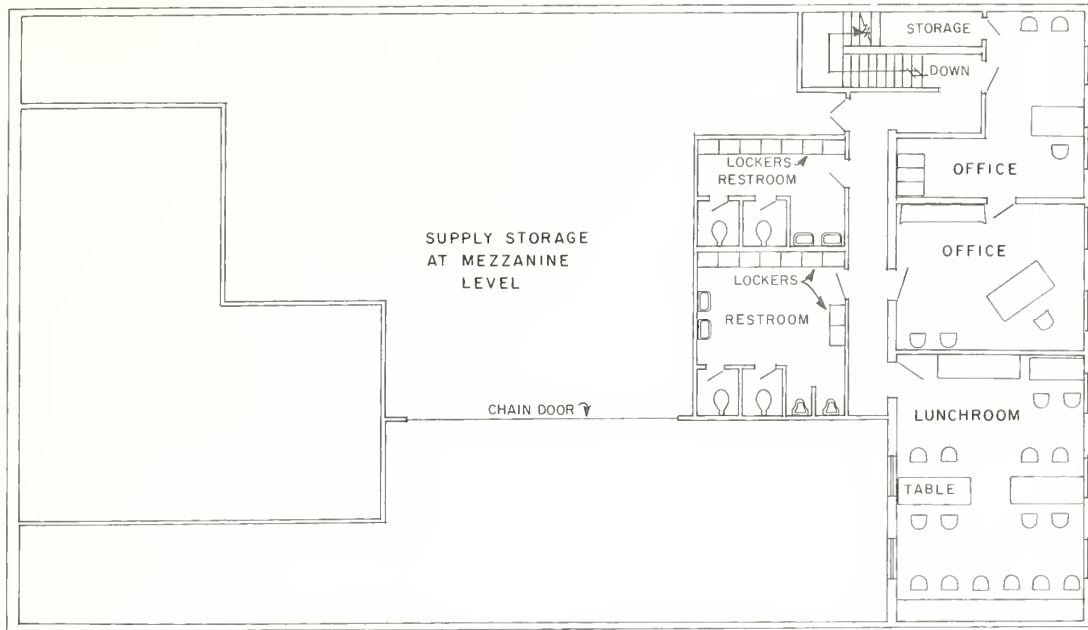
Firms using rail service should have house tracks adjacent to their facilities. These tracks are positioned to permit products to be unloaded directly from railcars into facilities. An additional rail track has been provided for switching purposes. Buildings should be so arranged that trackage could be extended to firms requiring it in the future.

Expansion Area

A reasonable expansion area should be maintained by individual firms located at the center, particularly where substantial investment is required. Since the regional food distribution center could be expected to develop, sufficient land must be available for most anticipated growth.

Restaurants, Public Restrooms, and Office Space

A restaurant has been located at a strategic point in the center, as well as public restrooms. Restaurant equipment and supplies could be furnished by the tenants. At the time of construction of the food center, an office building could be planned for land adjacent to the center. It could provide space for brokerage firms, banks, retail stores, and other businesses. No costs are presented here for this building because the size and type of prospective firms were not determined.



MEZZANINE

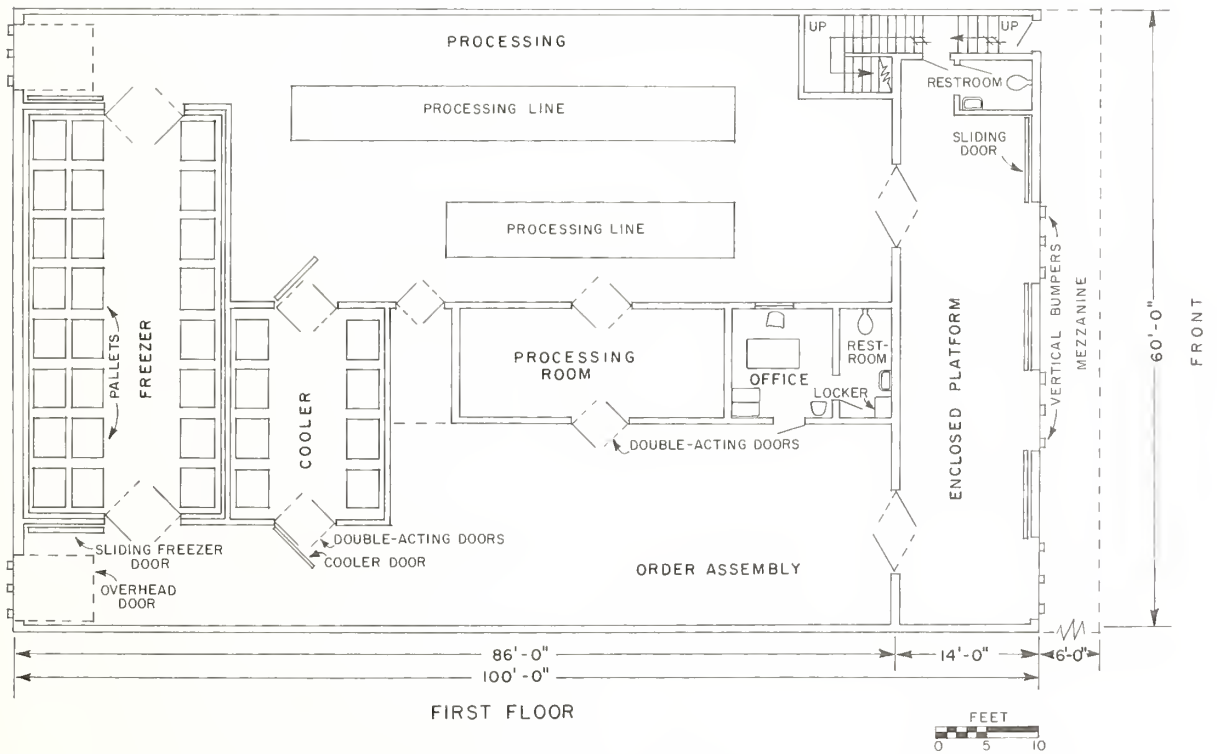


FIGURE 27.—Layout of a fish and shellfish firm in two multiple-occupancy building units.

Service Stations

In some cities where new food centers have been developed, oil companies have constructed facilities for servicing cars and trucks. At the time of construction of the food center, potential arrangements with the oil companies might be considered.

Arrangement of Facilities

An arrangement of the proposed facilities for a New Orleans food distribution center is shown in figure 28. It represents a master plan for the initial development of the center. Subsequent stages of

development may require an overall expansion of the center. An artist's conception of the master plan is shown on the cover. The facilities in both illustrations are arranged on 92 acres of a specific site.

To promote efficient movement of market traffic, all major parts of the center are so located as to have access to the main entrance, the large divided road perpendicular to Almonaster Avenue, which is on the far right of figure 28. The farmers' market is adjacent to the main entrance to allow heavy traffic into and out of this area without interfering with other parts of the center. Single-occupancy

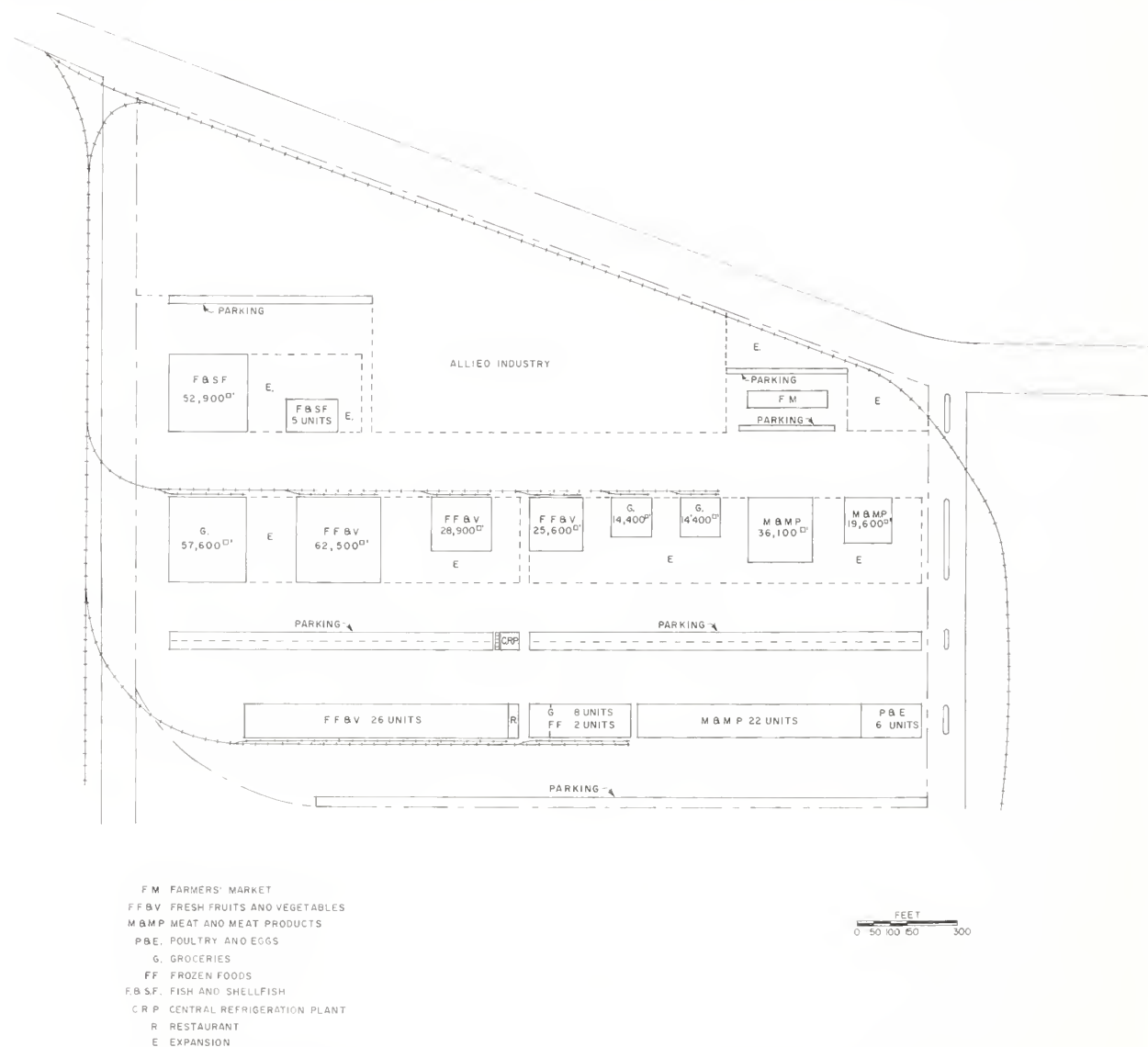


FIGURE 28.—Master plan of initial facilities for a New Orleans wholesale food distribution center.

buildings are located together along common streets and adjacent to parking. The multiple-occupancy buildings are also situated together and extend from one end of the center to the other. The multiple-occupancy buildings in this location will allow buyers' trucks to enter and leave the center without congesting other streets. Both the single- and multiple-occupancy buildings have access to a secondary entrance street extending to Almonaster Avenue and parallel to the main entrance street.

Support facilities are located to serve the center as a whole. All rail entrances onto the center property are adjacent to the secondary street. The central energy plant is located to efficiently serve the larger users of refrigerant. Allied industry is near Almonaster Avenue, where it can be served by extensions of planned streets in the center.

Site

A site for the proposed food distribution center has been selected in the Gentilly area of New Orleans East. The city of New Orleans has purchased 40 acres and obtained an option on an additional 50 acres of the 270-acre site. A right of "first refusal" has also been obtained on the remaining 180 acres. Sufficient land is available on the site for the initial facilities proposed for the food distribution center, as well as successive stages of development.

The Gentilly site is about 6 miles from the center of population of the New Orleans metropolitan area on St. Philip between Galvez and Miro Streets. Figure 29 shows the relationship of the site to neighboring roads and rail facilities. The site is bounded on the north by Almonaster Avenue, east by the Carey Salt Plant, west by Jourdan Road, and south by the Board of Commission's Port of New Orleans property adjacent to the Mississippi River-Gulf outlet. Figure 30 shows the site in its present condition.

The area is zoned heavy industrial and is presently vacant. Adjacent to the site are port facilities that may be subject to future development. Also in the proximity are railroad switching yards and a piggyback unloading area, which could serve the center.

Rail service would be provided by either the Louisville and Nashville Railroad or the New Orleans Public Belt Railroad; the latter connects with all major railroads serving the city's port

facilities. The site is within both railroads' switching limits. Highway access from the site to Interstate 10 would be by Almonaster Avenue to the Louisa Street access ramps. It would also be possible to use Almonaster Avenue, Jourdan Road, Gentilly Road, and Downman Road to Interstate 10 or U.S. 90, where connecting highways provide easy access to points north, east, and west. The site would also be served by public transportation.

The site is flat and would require little or no grading; however, substantial areas would need landfill. Subsoil conditions in the area require piling on all construction sites because of the abnormally high water table and the low load-bearing capacity.

Utilities and water systems are available. Drainage must be improved before the site can be developed. Since sewage facilities are not adequate in the vicinity, sewage lift stations will be necessary and also a treatment plant to serve the site. For this report the \$75,000 cost of such facilities was prorated over the entire acreage recommended in the master plan. Therefore the total 92-acre tract, with sewage treatment facilities, would cost about \$19,300 per acre or \$1,775,600.

Estimated Investment in Land and Facilities

The initial investment in a wholesale food distribution center would include two major cost components—land and facilities. The land and specific kinds and amount of facilities planned for the initial development are based on the number of candidate firms and their present annual sales volumes. Table 8 summarizes the total investment of \$13,565,868.

The recommended wholesale food facilities would require 67.82 acres of land assumed to cost about \$19,300 per acre or a total of \$1,308,926. Actual cost per acre of land at the site cannot be definitely established until negotiations are completed for the site. Certain site preparation charges may be necessary in addition to the direct land costs. For this report the cost of approximately 23.73 acres for allied industry in the master plan was excluded from the cost of the center. Firms in the allied industry section of the center would be expected to be responsible for the cost of land there.



FIGURE 29.—Location of the Gentilly site.



PN-3881

FIGURE 30.—The Gentilly site.

Facility and associated costs are all based on New Orleans construction costs as of May 1973 (see Construction Costs (appendix I)). These estimated costs are based on a concrete slab foundation, including piling and fill material, tilt-up concrete wall panels and roof slabs, plumbing, basic electric service, sprinkler system, mezzanines, roofing insulation, and necessary millwork. Costs for partitioned offices and specialized equipment are not included. The estimated building costs for single- and multiple-occupancy buildings are about the same as they both include similar features.

Paving estimates for streets and parking have been prorated among the food groups according to their share of the initial development. Paving costs

are for 4 inches of asphaltic concrete over 10 inches of sand and shell base. Concrete paving for areas where disengaged trailers may be parked should be considered but are not included in the costs.

Railroad switches, railroad tracks, water systems, storm and sanitary sewers, street lights and their distribution lines, and fencing included in the master plan have been prorated among all firms using these facilities. All utilities are assumed to be underground.

Costs of related projects included in the total construction costs are calculated as follows: Architectural and engineering fees are assumed to be 6 percent of the total costs, soil boring, foundation analysis, and surveys 1 percent, and construction

TABLE 8.—*Estimated investment costs of land and proposed initial facilities for 54 candidate wholesale food firms, New Orleans, 1972*

Type of firm and facility	Land required (acres)	Estimated cost		
		Land	Facilities	Total
Fresh fruits and vegetables:				
Multiple occupancy.....	10. 26	\$198, 018	\$1, 879, 657	\$2, 077, 675
Single occupancy.....	14. 16	273, 288	2, 704, 181	2, 977, 469
Total.....	24. 42	471, 306	4, 583, 838	5, 055, 144
Farmers' Market.....	3. 38	65, 234	223, 760	288, 994
Meat and meat products:				
Multiple occupancy.....	8. 12	156, 716	1, 495, 952	1, 652, 668
Single occupancy.....	6. 91	133, 363	1, 276, 586	1, 409, 949
Total.....	15. 03	290, 079	2, 772, 538	3, 062, 617
Poultry and eggs, multiple occupancy.....	2. 23	43, 039	395, 498	438, 537
Groceries and frozen foods:				
Multiple occupancy.....	3. 74	72, 182	700, 940	773, 122
Single occupancy.....	10. 63	205, 159	2, 028, 688	2, 233, 847
Total.....	14. 37	277, 341	2, 729, 628	3, 006, 969
Fish and shellfish:				
Multiple occupancy.....	1. 85	35, 705	341, 194	376, 899
Single occupancy.....	6. 54	126, 222	1, 210, 486	1, 336, 708
Total.....	8. 39	161, 927	1, 551, 680	1, 713, 607
All commodities:				
Multiple occupancy.....	26. 20	505, 660	4, 813, 241	5, 318, 901
Single occupancy.....	38. 24	738, 032	7, 219, 941	7, 957, 973
Farmers' Market.....	3. 38	65, 234	223, 760	288, 994
Total.....	¹ 67. 82	1, 308, 926	12, 256, 942	13, 565, 868

¹ Does not include 0.45 acre for central refrigeration plant or 23.73 acres for allied industry.

loans and legal and administrative fees 12 percent. A contingency allowance was assumed to total 10 percent of the total cost of building construction, other facilities, and related projects.

The construction costs are estimates and are intended only as a guide in planning facilities. They are not intended to replace estimates by local architects or engineering firms responsible for actual planning or construction of the project.

The recommended buildings and other facilities are estimated to cost approximately \$12,256,942.

The following tabulation shows the cost of specific buildings and associated facilities by commodity.

FRESH FRUIT AND VEGETABLE SECTION

Multiple-occupancy facilities:

Buildings (1: 27 units, 30 by 100 ft), including restaurant, 81,000 sq ft of first-floor space @ \$12.70 per sq ft.....	\$1, 028, 700
Other facilities: ¹	
Railroad trackage and switches.....	38, 924
Paving	301, 190
Water distribution system.....	8, 020

See footnotes at end of tabulation.

Sewers:	
Storm -----	\$32,470
Sanitary -----	13,520
Street lighting (standards and distribution lines) -----	6,571
Fencing (gates and gatehouse) -----	6,554
<hr/>	
Total cost of building construction and other facilities -----	1,435,949
<hr/>	
Related projects:	
Architectural and engineering fees -----	86,157
Soil boring, foundation analysis, and surveys -----	14,359
Financing, legal and administrative fees -----	172,314
Contingency allowance -----	170,878
<hr/>	
Total cost of building construction, other facilities, and related projects -----	1,879,657
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Single-occupancy facilities:	
Buildings (3), 117,000 sq ft of first-floor space @ \$12.85 per sq ft -----	1,503,450
Other facilities: ¹	
Railroad trackage and switches -----	53,750
Paving -----	415,929
Water distribution system -----	11,075
Sewers:	
Storm -----	44,839
Sanitary -----	18,671
Street lighting (standards and distribution lines) -----	9,074
Fencing (gates and gatehouse) -----	9,051
<hr/>	
Total cost of building construction and other facilities -----	2,065,839
<hr/>	
Related projects:	
Architectural and engineering fees -----	123,950
Soil boring, foundation analysis, and surveys -----	20,658
Financing, legal and administrative fees -----	247,900
Contingency allowance -----	245,834
<hr/>	
Total cost of building construction, other facilities, and related projects -----	2,704,181
<hr/>	
Total cost of fresh fruit and vegetable facilities -----	4,583,838

FARMERS' MARKET

Farmers' market facilities:	
Buildings (1), 16,800 sq ft of first-floor space @ \$9 per sq ft -----	151,200
Other facilities:	
Railroad trackage and switches -----	
Paving -----	5,960
Water distribution system -----	1,584

Sewers:	
Storm -----	\$6,426
Sanitary -----	3,168
Street lighting (standards and distribution lines) -----	1,303
Fencing (gates and gatehouse) -----	1,300
<hr/>	
Total cost of building construction and other facilities -----	170,941
<hr/>	
Related projects:	
Architectural and engineering fees -----	10,256
Soil boring, foundation analysis, and surveys -----	1,709
Financing, legal and administrative fees -----	20,512
Contingency allowance -----	20,342
<hr/>	
Total cost of building construction, other facilities, and related projects -----	223,760
<hr/>	
Total cost of farmers' market facilities -----	223,760

MEAT AND MEAT PRODUCTS SECTION

Multiple-occupancy facilities:	
Buildings (1; 22 units, 30 by 100 ft), 66,000 sq ft of first-floor space @ \$12.70 per sq ft ² -----	838,200
Other facilities: ¹	
Railroad trackage and switches -----	
Paving -----	247,406
Water distribution system -----	6,588
Sewers:	
Storm -----	26,671
Sanitary -----	13,176
Street lighting (standards and distribution lines) -----	5,397
Fencing (gates and gatehouse) -----	5,384
<hr/>	
Total cost of building construction and other facilities -----	1,142,822
<hr/>	
Related projects:	
Architectural and engineering fees -----	68,569
Soil boring, foundation analysis, and surveys -----	11,428
Financing, legal and administrative fees -----	137,138
Contingency allowance -----	135,995
<hr/>	
Total cost of building construction, other facilities, and related projects -----	1,495,952
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Single-occupancy facilities:	
Buildings (2), 55,700 sq ft of first-floor space @ \$12.85 per sq ft -----	715,745
Other facilities: ¹	
Railroad trackage and switches -----	
Paving -----	210,753
Water distribution system -----	5,612

MEAT AND MEAT PRODUCTS SECTION—continued

Single-occupancy facilities¹—ContinuedOther facilities¹—Continued

Sewers:

Storm	\$22, 720
Sanitary	11, 224
Street lighting (standards and distribu-	
Total cost of poultry and egg facilities..	395, 498
Fencing (gates and gatehouse)	4, 587

Total cost of building construction and other facilities	975, 239
--	----------

Related projects:

Architectural and engineering fees.....	58, 514
Soil boring, foundation analysis, and sur-	
veys	9, 752
Financing, legal and administrative fees..	117, 028
Contingency allowance	116, 053

Total cost of building construction, other facilities, and related projects..	1, 276, 586
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Total cost of meat and meat products facilities	2, 772, 538
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POULTRY AND EGG SECTION

Multiple-occupancy facilities:

Buildings (1; 6 units, 30 by 100 ft), 18,000 sq ft of first-floor space @ \$12.70 per sq ft..	228, 600
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Other facilities:¹

Railroad trackage and switches.....	
Paving	59, 760
Water distribution system.....	1, 584
Sewers:	
Storm	6, 426
Sanitary	3, 168
Street lighting (standards and distribu-	
tion lines)	1, 303
Fencing (gates and gatehouse)	1, 300

Total cost of building construction and other facilities	302, 141
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Related projects:

Architectural and engineering fees.....	18, 126
Soil boring, foundation analysis, and surveys	3, 021
Financing, legal and administrative fees..	36, 256
Contingency allowance	35, 954

Total cost of building construction, other facilities, and related projects..	395, 498
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Total cost of poultry and egg facilities..	395, 498
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GROCERY AND FROZEN FOOD SECTION

Multiple-occupancy facilities:

Buildings (1; 10 units, 30 by 100 ft), 30,000 sq ft of first-floor space @ \$12.70 per sq ft..	381, 000
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Other facilities:¹

Railroad trackage and switches.....	\$14, 151
Paving	113, 942
Water distribution system.....	3, 037
Sewers:	
Storm	12, 285
Sanitary	6, 099
Street lighting (standards and distribu-	
tion lines)	2, 486
Fencing (gates and gatehouse)	2, 479

Total cost of building construction and other facilities	535, 479
--	----------

Related projects:

Architectural and engineering fees.....	32, 128
Soil boring, foundation analysis, and sur-	
veys	5, 354
Financing, legal and administrative fees..	64, 257
Contingency allowance	63, 722

Total cost of building construction, other facilities, and related projects..	700, 940
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Single-occupancy facilities:

Buildings (3), 86,400 sq ft of first-floor space @ \$12.85 per sq ft.....	1, 110, 240
---	-------------

Other facilities:¹

Railroad trackage and switches.....	40, 275
Paving	324, 297
Water distribution system.....	8, 644
Sewers:	
Storm	34, 965
Sanitary	17, 247
Street lighting (standards and distribu-	
tion lines)	7, 075
Fencing (gates and gatehouse)	7, 057

Total cost of building construction and other facilities	1, 549, 800
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Related projects:

Architectural and engineering fees.....	92, 988
Soil boring, foundation analysis, and sur-	
veys	15, 498
Financing, legal and administrative fees..	185, 976
Contingency allowance	184, 426

Total cost of building construction, other facilities, and related projects..	2, 028, 688
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Total cost of grocery and frozen food facilities	2, 729, 628
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FISH AND SHELLFISH SECTION

Multiple-occupancy facilities:

Buildings (1; 5 units, 30 by 100 ft), 15,000 sq ft of first-floor space @ \$12.70 per sq ft ²	190, 500
--	----------

Other facilities:¹

Railroad trackage and switches-----	
Paving -----	\$56,971
Water distribution system-----	1,518
Sewers:	
Storm -----	6,145
Sanitary -----	3,037
Street lighting (standards and distribu- tion lines)-----	1,243
Fencing (gates and gatehouse)-----	1,239
<hr/>	
Total cost of building construction and other facilities-----	260,653
<hr/>	

Related projects:

Architectural and engineering fees-----	15,639
Soil boring, foundation analysis, and sur- veys -----	2,606
Financing, legal and administrative fees--	31,278
Contingency allowance-----	31,018
<hr/>	

Total cost of building construction, other facilities, and related projects--	341,194
<hr/>	

Single-occupancy facilities:

Buildings (1), 52,900 sq ft of first-floor space @ \$12.85 per sq ft-----	679,765
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Other facilities:¹

Railroad trackage and switches-----	
Paving -----	191,630
Water distribution system-----	5,108
Sewers:	
Storm -----	29,672
Sanitary -----	10,217
Street lighting (standards and distribu- tion lines)-----	4,181
Fencing (gates and gatehouse)-----	4,169
<hr/>	

Total cost of building construction and other facilities-----	924,742
<hr/>	

Related projects:

Architectural and engineering fees-----	55,484
Soil boring, foundation analysis, and sur- veys -----	9,247
Financing, legal and administrative fees--	110,969
Contingency allowance-----	110,044
<hr/>	

Total cost of building construction, other facilities, and related projects--	1,210,486
<hr/>	

Total cost of fish and shellfish facilities--	1,551,680
<hr/>	

Grand total-----	12,256,942
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¹ Cost of other facilities is prorated among tenants using these facilities based on first-floor space.

² Complete second floor may be installed at option and cost to individual tenant.

Financing Methods

The proposed food distribution center can be financed and organized in several ways—by private corporations, public benefit corporations, direct public ownership, or various combinations.⁸

In order to protect investors, there will be certain common requirements in organizing and operating the proposed center. They are as follows:

(1) The center will be well located, designed, equipped, and operated.

(2) Firm agreements to lease or buy will be signed prior to construction.

(3) Investors' funds will be spent prudently.

(4) The center will be operated without discrimination against buyer, seller, mode of transportation, or origin of shipment.

Private Corporation

A private corporation is usually organized for profit but may be operated on a nonprofit basis. It is a legal entity organized in conformity with State statutes and made up of individuals bound together for a common purpose or objective. The owners of a private corporation have complete control over operations, subject only to generalized legal restrictions. When a private corporation is operated for profit, there are usually no limits on the sale of voting stock to any individual or firm. Stockholders have one vote for each share of voting stock held. Many wholesale food centers are owned and operated by private corporations. In some centers the principal stockholders are the tenants, individuals, or a railroad company. The incorporators usually obtain a charter from the State to form a private corporation. This charter defines the powers of the corporation and of its officers and directors and also the corporation's purpose. It further specifies the stockholders' rights and how control should be exercised.

Some characteristics of private corporations are as follows:

(1) The board of directors has the power to make immediate decisions.

(2) Private corporations are generally financed by selling bonds and issuing stock.

⁸ CLOWES, HARRY G., ELLIOTT, WILLIAM H., and CROW, WILLIAM C. WHOLESALE FOOD MARKETING FACILITIES, TYPES OF OWNERSHIP AND METHODS OF FINANCING. U.S. Dept. Agr. Mktg. Res. Rpt. 160, 96 pp., illus. 1957.

(3) State statutes place few restrictions on operations of a private company.

(4) The bylaws of a private corporation may be written so that the occupants of the facilities will be able to recoup some of the rents and service charges paid during the amortization period. A privately owned facility has greater latitude in conveying property or other rights to individuals or firms.

Wholesale food markets owned by private corporations may tend to become so-called closed markets. They often limit the space for expansion in order to maintain control. The major problem of corporate ownership is that substantial financial equity is required. This often results in difficulty in obtaining funds to finance the preliminary organization.

A nonprofit private corporation may or may not be an agency of government; however, it must be organized in conformity with existing State statutes. State statutes rarely limit participation because of business occupation. However, membership can usually be restricted through bylaws. In a nonprofit private corporation, participation in corporate activities is usually based either on a system of dues, which limits each member or stockholder to one vote, or on bylaws, which restrict ownership of voting stock to one share per member. Often those who are directly interested in the ownership and operation of a wholesale center form a nonprofit private corporation to construct and operate the food center. An example of a nonprofit private corporation is the small business investment company set up under the U.S. Small Business Administration. The following is a brief description of this type of organization.

In 1958 the Congress enacted the Small Business Investment Act, establishing a program to stimulate the flow of private equity capital and to permit long-term loans for the sound financing of the operation, growth, expansion, and modernization of small business concerns. Under this Act the Small Business Administration is authorized to make loans to so-called State development companies or to local development companies, and to license, regulate, and give financial assistance to privately organized, privately financed companies.

A development company, profit or nonprofit, is an incorporated enterprise. It usually has authority to promote and assist other businesses. It may

be local in nature and designed to serve a particular community, or it may be statewide in its scope. In both instances it will have been organized under applicable State laws or a special legislative act.

The Small Business Administration is authorized to make loans to State and local development companies in exchange for obligations of the development company. It is also authorized to make loans for plant construction, conversion, or expansion and for the acquisition of land. Such loans may be made either directly or in cooperation with banks or other lending institutions. Certain rules and regulations have been set up defining eligible business categories and needed collateral.

Public Benefit Corporation

A public benefit corporation or market authority may offer certain advantages. It is publicly owned and is organized as a nonprofit agency. Rentals and other charges usually do not exceed the amount needed to pay costs of operation, amortize the original investment, and maintain a limited contingency fund. Under public ownership the revenue would be considered as public funds and not paid to lessees as dividends. Under some circumstances, these funds may be appropriated for public use while bonds remained outstanding. In other instances, funds are specifically committed to redemption of bonds.

Public benefit corporations usually have the power of eminent domain. They generally finance market improvements through the sale of revenue bonds. These bonds are not normally considered a full obligation of a State or political subdivision. They may be tax exempt under Federal law but may not be tax exempt under State or parish law.

A public agency, such as a market authority, is more likely than some types of private ownership to provide for future expansion and to work toward the establishment of a complete wholesale food center. A market authority may or may not be required to pay property taxes to the community in which it is located.

Market authorities have certain limitations. They find it difficult to raise funds through revenue bonds unless considerable equity funds are provided in some way or the bonds are guaranteed by the city, parish, or State. In some instances, governments have appropriated part of the funds needed for land acquisition and original construc-

tion. Management personnel may change with a State or municipal government administration. Generally market authorities do not have as complete freedom of operation as private corporations.

Direct Public Ownership

Some wholesale food distribution centers have been financed, constructed, and operated by States, counties, or municipalities. Several States and some municipalities have passed enabling legislation covering the improvement or establishment of such centers.

State ownership and operation usually can be contrasted with ownership and operation by a State market authority by the methods of financing and the delegation of authority by the State legislature. Although some States have appropriated funds and otherwise assisted market authorities with financial problems, they do not usually underwrite the total cost of a market constructed by an authority nor have the States always assumed responsibility for operating these markets.

Under State ownership a wholesale food distribution center is financed completely or partly by an appropriation of State funds. If the financing is not entirely by this method, the State often obligates itself for the balance. The State usually is also responsible for maintenance and other expenses involved in day-to-day operations. States may finance, construct, and operate wholesale food distribution centers, because legislatures believe that improved wholesale food facilities in themselves serve the public interest.

Municipal ownership of a food distribution center is comparable in many of its basic aspects to direct State ownership. Some municipalities are authorized in their charters to construct and operate food markets. Some city councils or commissions are authorized to make appropriations from general funds in the city treasury for the construction of market facilities on a basis comparable to that of a State legislative body. Three methods are usually open to municipalities for financing a market program: Issuing municipal bonds, issuing revenue warrants, and obtaining loans from public corporations. In most cities, issuing bonds for such purposes must be approved by a majority of the voters in a referendum.

Facilities constructed with municipal or county

funds would be owned by the municipality or county and rent would have to be paid by the tenants indefinitely.

Combinations of Financing

Because of the complexity of building large wholesale food distribution centers, some are financed by a combination of public and private funds. Several food distribution centers in the Northeastern United States typify the possibilities of various combinations.

A food distribution center was built in Philadelphia by a nonprofit corporation on land owned and put into condition for building by the city. The city subordinated its interest in the land so that the land could be used as equity in borrowing money for building construction. Where the multiple-occupancy buildings were constructed, the development company leased the units to operating stock companies formed by the prospective tenants. At the end of 30 years all buildings will become the property of the city except those built on the parcels of land sold by the developing company with city approval for construction of single-occupancy buildings.

A food distribution center at Hunts Point, N.Y., is owned by the city and makes direct leases to the tenants in the fruit and vegetable section of the market and to operators in single-occupancy buildings. Other sections of the market have been built by the city but leased to corporations consisting of groups of merchants. The city manages and maintains the center, which was financed through general obligation bonds.

The New England Produce Center, Inc., the Boston Market Terminal, Inc., and the Boston Food Center were constructed in the Boston metropolitan area by private corporations. The facilities are entirely owned and operated by the individual participating food firms. To finance these markets, equity funds were provided by the stockholders on the basis of individual participation. The major sources of financing were from local banks, insurance companies, and the Small Business Administration.

In 1948 the Louisiana Legislature passed an enabling act,⁹ under which farm product markets may be organized as nonprofit corporations.

⁹ Act 99, Louisiana State Legislature Farm Products Facilities Act, approved by the Governor, June 25, 1948.

"The purpose of the *Farm Products Facilities Act* is to provide a permissive method for the establishment of terminal and assembly markets, through the creation of a nonprofit corporation to be known as "Farm Products Market Facilities," in order to promote the efficient and economic handling of farm and food products in the interest of growers, the food trade, and the consuming public, this method to be in addition and supplementary to any and all other methods for the creation of such types of markets provided for or permitted under the laws of this State.

"It is further the purpose of this Act to provide an efficient place where private enterprise can operate effectively and to maintain the management of the market in the hands of those who use it. There shall be no interference by the management of the market with such incidents of private enterprise as profits, prices and types of farm and food products dealt in."

For details of public financing under this Act, see *Enabling Legislation for Public Financing* (appendix II).

Estimated Annual Operating Costs and Revenue Requirements

The annual revenue required to finance and operate the proposed initial facilities in the New Orleans regional food distribution center will depend on the method of financing. For purposes of estimating revenue requirements, financing by private or public method was assumed. This assumption is not intended to imply that either method of financing is more desirable than the other but only to establish a basis for estimating costs.

The annual operating expenses and revenue requirements for the initial facilities, assuming ownership by a private or public corporation, are discussed under the following cost categories: Debt service, real estate taxes, and management and maintenance.

Debt Service

The initial wholesale food distribution center should be financed so that it will be self-sustaining. A major item of cost that must be paid by a private or public corporation financing and operating such a development is debt service or mortgage

payments. If the development is to be self-liquidating, the investment must be repaid from food center revenue.

The proportion of the total investment that might be borrowed on a mortgage loan and the terms of the loan depend both on the fluctuating money market and on the facilities to be financed. The facilities for the recommended initial development should be designed so that they will not become obsolete in less than 30 years and should be useful for a much longer period. The facilities proposed should be of durable construction, and with few minor alterations could be expanded or converted for use by several types of occupants.

Table 9 shows the debt service payments required for the proposed food distribution center assuming private or public financing. Regardless of the method of financing, the debt service payments would include both an amortization payment and a reserve. No equity capital participation was anticipated.

To calculate the amortization payment under private financing, an interest rate of 9 percent over a 27-year period was assumed. This interest rate would be applied to the cost of both the land and the facilities.

Public financing required an amortization payment based on an interest rate of 6 percent over a 30-year period applied only to the cost of facilities. Land was assumed to remain under public ownership, requiring only a 6 percent annual charge based on its initial cost and no recovery of principal. The amortization payment for the facilities and the annual interest on the land would together comprise the total amortization payment for this method of financing.

If first mortgage bonds are issued, purchasers might demand that annual income exceed annual expenses and that a guarantee payment fund be created. The actual amount required would vary according to the money market, the financial rating of the issue, and the nature of the collateral offered. For this analysis, a reserve or contingency fund of 10 percent of the amortization payment per year was allowed. At the discretion of the bond holders the fund may be discontinued after it covers 1 full year of amortization payment.

The total debt service payment would vary depending on the method of financing. An annual

TABLE 9.—*Estimated annual debt service payments under private financing and less principal of land required under public financing for proposed initial food distribution center, New Orleans, 1972*

Type of firm and facility	Amortization payment ¹	Reserve or contingency ²	Total
PRIVATE FINANCING			
Fresh fruits and vegetables:			
Multiple occupancy-----	\$207, 207	\$20, 721	\$227, 928
Single occupancy-----	296, 943	29, 694	326, 637
Total-----	504, 150	50, 415	554, 565
Farmers' market-----	28, 821	2, 882	31, 703
Meat and meat products:			
Multiple occupancy-----	164, 820	16, 482	181, 302
Single occupancy-----	140, 614	14, 061	154, 675
Total-----	305, 434	30, 543	335, 977
Poultry and eggs, multiple occupancy-----	43, 735	4, 373	48, 108
Groceries and frozen foods:			
Multiple occupancy-----	77, 103	7, 710	84, 813
Single occupancy-----	222, 781	22, 278	245, 059
Total-----	299, 884	29, 988	329, 872
Fish and shellfish:			
Multiple occupancy-----	37, 588	3, 759	41, 347
Single occupancy-----	133, 310	13, 331	146, 641
Total-----	170, 898	17, 090	187, 988
Grand total-----	1, 352, 922	135, 291	1, 488, 213
PUBLIC FINANCING			
Fresh fruits and vegetables:			
Multiple occupancy-----	154, 171	15, 417	169, 588
Single occupancy-----	221, 103	22, 110	243, 213
Total-----	375, 274	37, 527	412, 801
Farmers' market-----	20, 852	2, 085	22, 937
Meat and meat products:			
Multiple occupancy-----	122, 646	12, 265	134, 911
Single occupancy-----	104, 639	10, 464	115, 103
Total-----	227, 285	22, 729	250, 014
Poultry and eggs, multiple occupancy-----	32, 521	3, 252	35, 773
Groceries and frozen foods:			
Multiple occupancy-----	57, 392	5, 739	63, 131
Single occupancy-----	165, 881	16, 588	182, 469
Total-----	223, 273	22, 327	245, 600

See footnotes at end of table.

TABLE 9.—*Estimated annual debt service payments under private financing and less principal of land required under public financing for proposed initial food distribution center, New Orleans, 1972—Continued*

Type of firm and facility	Amortization payment ¹	Reserve or contingency ²	Total
PUBLIC FINANCING—continued			
Fish and shellfish:			
Multiple occupancy.....	\$27, 971	\$2, 797	\$30, 768
Single occupancy.....	99, 207	9, 921	109, 128
Total.....	127, 178	12, 718	139, 896
Grand total.....	1, 006, 383	100, 638	1, 107, 021

¹ For private financing, \$99.73 per \$1,000 of investment in land and facilities; for public financing, 6 percent of land cost plus \$75.70 per \$1,000 of investment in facilities.

² 10 percent of amortization payment per year.

debt service payment of \$1,488,213 for private financing and \$1,107,021 for public financing of the center would be required (table 9).

If the candidate firms were to participate in the initial loan by providing equity capital, debt service payments could be reduced. To provide an estimate of the equity capital that could be available, a study was made of the market value of the candidates' present facilities. The indicated resale value of these facilities, excluding land, would exceed \$6 million. If equity capital were supplied by the tenants in proportion to the relative cost of facilities, payments of dividends to stockholders might not be desirable because of tax liabilities.

Real Estate Taxes

One of the major expenses in operating the proposed wholesale food distribution center under private financing would be taxes on real property and improvements. In New Orleans the tax rate for 1973 was \$40.70 per thousand dollars of assessed valuation. In Orleans Parish the assessed valuation is subject to negotiation. However, for this report and to provide a basis for real estate taxes, the assessed valuation was assumed to be 30 percent of the market value of the land and facilities. Taxes probably will increase through revised valuation, higher rates, or both. A reserve or contingency allowance of 10 percent is included to

allow for these increases. The estimated taxes to be paid annually by a private corporation for real property and improvements at the Gentilly site would be \$182,200 (table 10).

Since the center would be entirely owned by a public agency, it can be assumed to be exempt from local real estate taxes. Therefore no cost for this item has been included under public financing.

Management and Maintenance

Management costs for an initial distribution center include salaries for a manager and two market masters, a secretarial and bookkeeping staff, legal and auditing services, office rentals, travel and business expenses, advertising and promotion, office equipment and supplies, communications and utilities for management offices and public areas, insurance, and security. The maintenance costs include general market sanitation, repairs, and upkeep. Information concerning market sanitation may be found in a Department report.¹⁰

¹⁰ VOLZ, MARVIN D., and STEARNS, ROBERT P. SOLID WASTE MANAGEMENT SYSTEMS FOR FOOD DISTRIBUTION CENTERS. U.S. Dept. Agr. Mktg. Res. Rpt. 994, 57 pp., illus. 1974.

TABLE 10.—*Estimated annual real estate taxes under private financing for proposed initial wholesale food distribution center, New Orleans, 1972*

Type of firm and facility	Taxes ¹	Reserve or contingency ²	Total
Fresh fruits and vegetables:			
Multiple occupancy-----	\$25, 368	\$2, 537	\$27, 905
Single occupancy-----	36, 355	3, 635	39, 990
Total-----	61, 723	6, 172	67, 895
Farmers' market-----	3, 529	353	3, 882
Meat and meat products:			
Multiple occupancy-----	20, 179	2, 018	22, 197
Single occupancy-----	17, 215	1, 721	18, 936
Total-----	37, 394	3, 739	41, 133
Poultry and eggs, multiple occupancy-----	5, 354	535	5, 889
Groceries and frozen foods:			
Multiple occupancy-----	9, 440	944	10, 384
Single occupancy-----	27, 275	2, 728	30, 003
Total-----	36, 715	3, 672	40, 387
Fish and shellfish:			
Multiple occupancy-----	4, 601	460	5, 061
Single occupancy-----	16, 321	1, 632	17, 953
Total-----	20, 922	2, 092	23, 014
Grand total-----	165, 637	16, 563	182, 200

¹ Based on tax rate of \$40.70 per \$1,000 of assessed value, which is based on 30 percent of total investment in land and facilities.

² 10 percent of taxes.

The annual expenses for management and maintenance for the proposed initial wholesale food distribution center are estimated as follows:

Management:

Salaries:

Market manager-----	\$14, 000
Market masters (2 @ \$7,500) ¹ -----	15, 000
Secretarial and bookkeeping staff-----	15, 000

Associated expenses:

Legal and auditing services-----	10, 000
Office rental-----	5, 000
Travel and business expense-----	5, 000
Advertising and promotion-----	6, 000
Office equipment and supplies-----	2, 000
Communications (telephone and telegraph)-----	2, 000
Utilities (management office and public areas)-----	10, 000
Insurance:	
Fire and extended coverage-----	28, 968
Liability-----	1, 995
Security (6 men @ \$6,000)-----	36, 000

Maintenance:

General market sanitation:

Street cleaning-----	\$20, 000
Janitorial services-----	10, 000
Repairs and upkeep ² -----	60, 873

Total management and maintenance----- 241, 836

Contingency³----- 24, 184

Grand total----- 266, 020

¹ 2 market masters would manage the farmers' market, 1 on duty during each of 2 shifts per day.

² Based on 0.5 percent of cost of buildings and other facilities. Cost of refrigeration equipment, distribution lines, and terminal equipment associated with central refrigeration system is not included.

³ Based on 10 percent of total cost.

The insurance rates used in this report are estimates by local underwriters of fire and liability insurance. Fire insurance rates are based on the use of sprinkler systems, use of metal trash receptacles

with metal lids, and central station supervision of the center or a watchman with an approved clock or an approved thermostat system. Fire and extended coverage are estimated to be \$0.23900 per \$100 based on 90 percent of the value of the buildings or \$28,968. Liability insurance rates are based on \$50,000 combined single limits for bodily injury and property damage. The annual rate for this policy, based on the number of square feet of the buildings, is approximately \$1.995. These rates are not applied to, nor do they include, any property of tenants. They are used for illustrative purposes only.

Repairs and upkeep are assumed to be 0.5 percent of the facility cost or \$60,873. This percentage is used because this type of construction requires a relatively low level of maintenance. This rate was applied to all buildings and facilities and not to the cost of land.

A contingency of 10 percent was added to the management and maintenance costs to cover possible increases. After a sizable reserve has been accumulated, this practice might be discontinued.

These costs will be the same regardless of whether private or public financing is used for the center. The cost allocated to each of the commodity classifications is prorated according to their acreage requirements.

Total Annual Revenue Required

Table 11 shows the estimated total annual revenue needed assuming private and public financing. Total annual revenue would include the charges for debt service, paying real estate taxes, and the cost of managing and maintaining the proposed initial food distribution center. The total revenue required assuming private and public financing would be \$1,936,433 and \$1,373,041, respectively.

The primary source of revenue for the proposed initial facilities, regardless of the financing method, would be from rents of all buildings except the proposed central refrigeration system. The rentals based on private financing and operation of the initial development could be considered as ownership costs and could be substantially reduced when the debt service for the facilities was completely paid. Assuming public financing, rentals would be expected to continue indefinitely at their present or higher levels.

Rental charges are dependent on the method of

financing. Rents, assuming private and public financing, are shown in table 12. Annual rental required per square foot of floorspace for the recommended facilities under private and public financing would range, respectively, from \$3.44 to \$3.68 and from \$2.43 to \$2.61, excluding the farmers' market, with an overall average of \$3.61 and \$2.56. All rental charges are based on first-floor space. Mezzanine costs are allocated to the first floor of appropriate facilities.

Estimated Cost Comparisons and Benefits

Cost comparisons between the present and proposed food facilities are summarized in table 13. Wholesalers would expect their costs to total \$6,450,793 annually if the new center is privately financed. Public financing would change the equivalent costs to \$5,900,049. Annual savings of \$796,352 and \$1,347,096, assuming private and public financing, respectively, could be realized from a move to a new market. Only selected costs considered to be affected by a move to new facilities were included in this analysis. No refrigeration expenses were considered. Wholesalers may realize additional benefits in savings accruing from a centralized refrigeration system at the proposed food distribution center. For supporting material and methodology concerning wholesalers' costs, see Methodology and Cost Comparisons (appendix III).

Since the selected costs in the proposed facilities are based on present volume, they do not reflect the potential savings that could accrue from the handling of increased volume. Average fixed costs will decline with the handling of increased volume. Therefore the potential for reducing costs in moving commodities into, through, and from the improved facilities could be greater than indicated.

In addition, past experience has indicated that whether proposed facilities are developed or not, the number of wholesale firms operating in an area will decrease. Efficient firms with lower unit costs and modern materials handling practices could expect to handle this additional volume in their new facilities.

In centralized facilities the cost of interwholesaler transfers can be reduced because of the

TABLE 11.—*Estimated annual revenue under private and public financing for proposed initial wholesale food distribution center, New Orleans, 1972*

Type of firm and facility	Debt service	Real estate taxes ¹	Management and maintenance ²	Total
PRIVATE FINANCING				
Fresh fruits and vegetables:				
Multiple occupancy-----	\$227, 928	\$27, 905	\$39, 903	\$295, 736
Single occupancy-----	326, 637	39, 990	55, 864	422, 491
Total-----	554, 565	67, 895	95, 767	718, 227
Farmers' market-----	31, 703	3, 882	7, 981	43, 566
Meat and meat products:				
Multiple occupancy-----	181, 302	22, 197	31, 922	235, 421
Single occupancy-----	154, 675	18, 936	29, 262	202, 873
Total-----	335, 977	41, 133	61, 184	438, 294
Poultry and eggs, multiple occupancy-----	48, 108	5, 889	7, 981	61, 978
Groceries and frozen foods:				
Multiple occupancy-----	84, 813	10, 384	15, 961	111, 158
Single occupancy-----	245, 059	30, 003	42, 563	317, 625
Total-----	329, 872	40, 387	58, 524	428, 783
Fish and shellfish:				
Multiple occupancy-----	41, 347	5, 061	7, 981	54, 389
Single occupancy-----	146, 641	17, 953	26, 602	191, 196
Total-----	187, 988	23, 014	34, 583	245, 585
Grand total-----	1, 488, 213	182, 200	266, 020	1, 936, 433
PUBLIC FINANCING				
Fresh fruits and vegetables:				
Multiple occupancy-----	169, 588	0	39, 903	209, 491
Single occupancy-----	243, 213	0	55, 864	299, 077
Total-----	412, 801	0	95, 767	508, 568
Farmers' market-----	22, 937	0	7, 981	30, 918
Meat and meat products:				
Multiple occupancy-----	134, 911	0	31, 922	166, 833
Single occupancy-----	115, 103	0	29, 262	144, 365
Total-----	250, 014	0	61, 184	311, 198
Poultry and eggs, multiple occupancy-----	35, 773	0	7, 981	43, 754
Groceries and frozen foods:				
Multiple occupancy-----	63, 131	0	15, 961	79, 092
Single occupancy-----	182, 469	0	42, 563	225, 032
Total-----	245, 600	0	58, 524	304, 124

See footnotes at end of table.

TABLE 11.—*Estimated annual revenue under private and public financing for proposed initial wholesale food distribution center, New Orleans, 1972—Continued*

Type of firm and facility	Debt service	Real estate taxes ¹	Management and maintenance ²	Total
PUBLIC FINANCING—continued				
Fish and shellfish:				
Multiple occupancy.....	\$30,768	0	\$7,981	\$38,749
Single occupancy.....	109,128	0	26,602	135,730
Total.....	139,896	0	34,583	174,479
Grand total.....	1,107,021	0	266,020	1,373,041

¹ Under public ownership, facilities would be tax exempt.² Allocated to commodities and type of building on basis of total first-floor space.TABLE 12.—*Estimated total revenue and annual rental required under private and public financing for first-floor building area of proposed initial wholesale food distribution center, New Orleans, 1972*

Type of firm and facility	First-floor area required (square feet)	Total revenue required		Annual rental per square foot	
		Private financing	Public financing	Private financing	Public financing
Fresh fruits and vegetables:					
Multiple occupancy.....	78,000	\$295,736	\$209,491	\$3.79	\$2.69
Single occupancy.....	117,000	422,491	299,077	3.61	2.56
Total or weighted average.....	195,000	718,227	508,568	3.68	2.61
Farmers' market.....	16,800	43,566	30,918	2.59	1.84
Meat and meat products:					
Multiple occupancy.....	66,000	235,421	166,833	3.57	2.53
Single occupancy.....	55,700	202,873	144,365	3.64	2.59
Total or weighted average.....	121,700	438,294	311,198	3.60	2.56
Poultry and eggs, multiple occupancy.....	18,000	61,978	43,754	3.44	2.43
Groceries and frozen foods:					
Multiple occupancy.....	30,000	111,158	79,092	3.71	2.64
Single occupancy.....	86,400	317,625	225,032	3.67	2.60
Total or weighted average.....	116,400	428,783	304,124	3.68	2.61
Fish and shellfish:					
Multiple occupancy.....	15,000	54,389	38,749	3.63	2.58
Single occupancy.....	52,900	191,196	135,730	3.61	2.57
Total or weighted average.....	67,900	245,585	174,479	3.62	2.57
Grand total or weighted average..	535,800	1,936,433	1,373,041	3.61	2.56

TABLE 13.—*Summary of estimated annual costs of moving food commodities through present and proposed wholesale market facilities, New Orleans, 1972*¹

Commodity	Volume (tons)	Present facilities		Proposed facilities					
		Cost per ton ²	Total cost	Private financing			Public financing		
				Cost per ton ²	Total cost	Difference	Cost per ton ²	Total cost	Difference
Fresh fruits and vegetables-----	137, 112	\$20. 63	\$2, 828, 297	\$15. 66	\$2, 147, 343	\$680, 954	\$14. 13	\$1, 937, 684	\$890, 613
Meat and meat products-----	42, 403	40. 16	1, 703, 031	41. 65	1, 766, 258	-63, 227	38. 66	1, 639, 162	63, 869
Poultry and eggs-----	8, 941	29. 39	262, 809	26. 82	239, 837	22, 972	24. 79	221, 613	41, 196
Groceries and frozen foods-----	64, 240	34. 03	2, 186, 040	28. 74	1, 846, 015	340, 025	26. 80	1, 721, 356	464, 684
Fish and shellfish-----	11, 114	24. 02	266, 968	40. 61	451, 340	-184, 372	34. 21	380, 234	-113, 266
Total or average-----	263, 810	27. 47	7, 247, 145	24. 45	6, 450, 793	796, 352	22. 36	5, 900, 049	1, 347, 096

¹ For detailed breakdown by commodity, see table 14 (appendix III). Costs unaffected by move to new facilities are excluded.² Based on direct receipts.

proximity of similar type firms. Contiguous platforms on fruit and vegetable multiple-occupancy buildings can be expected to reduce the cost of unloading and loading operations. Direct rail service to selected buildings will reduce the cost of cartage and the resultant extra handling for firms requiring rail service. Adequate parking and sufficiently wide streets to handle market traffic will reduce avoidable delay and congestion.

The construction of new facilities may not appear feasible for all commodity groups. However, the primary factor in considering a regional food center is that the volume should increase and the firms expand. As the center reaches out to serve an increasing population in the metropolitan area and the Midwest, likewise it can serve areas to the south in the Caribbean. In addition, many firms are in a situation where the necessity of moving is eminent. Others just do not have adequate facilities. Without improved facilities and handling methods, the high costs of operations that result from these facilities can be expected to increase as the costs for labor, repairs, materials, space, and services increase.

It is impossible to place a monetary value on all savings and benefits that may accrue from the development and operation of an initial wholesale food distribution center. As the center grows, benefits will affect not only wholesalers in the center but producers, buyers, and market employees, as well as the entire metropolitan area. Such benefits as improved employee morale, better working conditions, regulated working hours, and improved environment will greatly affect the efficiency of operation.

One of the areas in which the greatest opportunity exists to reduce costs is in the handling operations. However, to achieve maximum efficiency, proper use of materials handling equipment, including forklift trucks, pallets, pallet racks, and handtrucks, is necessary. Operating in improved facilities provides an effective means for achieving the most efficient use of mechanized handling equipment. Similarly the use of pallet racks could reduce time required to assemble products and fully utilize cubic space.

In the proposed facility, commodities could be unloaded directly to pallets and transported into facilities with no intermediate step. Meat wholesalers could place carcass meat on overhead rails

at the edge of the platform and move directly to coolers and processing areas. Similar loading operations could achieve similar efficiencies. Some commodities could be received directly on platforms and loaded out to buyers' trucks without entering the facilities.

Even though relatively few buyers visit the center, those who do would be able to park conveniently, make selections quickly, load their trucks expeditiously, and leave promptly. Buyers would be able to examine and select products more easily because of the design and location of storage and display areas and adequate lighting.

With better working conditions for employees, both morale and efficiency would be improved. Less strenuous labor would be required with the

use of proper handling equipment in facilities especially designed for their use.

Inventory control would be simplified in a one-level facility. Over a period of time, labor productivity could increase. Such conveniences as parking facilities, restaurants, and restroom facilities, which are now inadequate, could be improved.

Several benefits to the community can be expected in the eventual development of the complete food distribution center. The center would provide for (1) an increased tax base, (2) localization of market traffic, enabling improved control, (3) expeditious enforcement of health, fire, and police regulations, (4) increased employment for semiskilled labor, and (5) a stimulus to the area's economic development.

APPENDIX I

CONSTRUCTION COSTS

The estimated costs of building construction and other facilities in the proposed food distribution center are derived from data provided by architectural and engineering firms in New Orleans. The information is general and should not be used as an accurate measure against proposal bids. Costs of specific per-unit buildings, other facilities, and related projects used to develop the tabular data (pp. 40-43) in this report are as follows:

	<i>Cost per square foot</i>
Multiple-occupancy building.....	\$12. 70
Single-occupancy building.....	12. 85
Farmers' sheds, loading dock type to accommo- date second-story addition.....	9. 00
Other facilities:	<i>Cost per linear foot</i>
90-lb construction, 20-inch tie spacing....	\$18. 25
No. 7, 90-lb turnout.....	¹ 4, 125. 00

Paving:

4-inch asphaltic concrete over sand and shell base.....	² \$8. 00
Water distribution system.....	² 8. 00
Storm sewer construction (drainage)....	18. 00
Sanitary sewer construction.....	16. 00
Electric power system:	
Distribution lines.....	4. 00
Street light standards.....	¹ 350. 00
8-ft chain link fence with barbed wire, gates, and gatehouse.....	5. 25

Related projects:

	<i>Percent of construction cost</i>
Architectural and engineering fees.....	6
Soil boring, foundation analysis, and sur- veys	1
Financing, legal and administrative fees..	12
Contingency allowance.....	³ 10

¹ Cost per item.² Cost per square yard.³ Percent of project cost.

APPENDIX II

ENABLING LEGISLATION FOR
PUBLIC FINANCING

The 1948 Louisiana Legislature passed an enabling act (Act No. 99) under which farm product markets may be organized as non-profit public corporations. The Act is commonly known as the *Farm Products Market Facilities Act* and contains the following provisions:

An Act

To promote the efficient and economic handling of agricultural products; to provide additional methods for the creation of non-profit public corporations, to be known as "Farm Products Market Facilities"; to provide for the establishment, organization and operation of terminal and assembly markets; defining certain terms used in this act; authorizing the State Market Commission to hold public hearings and cause investigations to be made on petitions to establish such Facilities; Authorizing the Governor, in his discretion, to approve petitions for the establishment of Terminal Agricultural Products Facilities and to issue certificates of authority to create such Facilities in accordance with the provisions hereof; providing for the appointment of the first Board of Directors of nine members as the governing authority of a Terminal Market Facility and their tenure of office; providing for the appointment and term of office of subsequent Boards of Directors of a Terminal Market Facility; providing for the appointment and term of office of the first Board of Directors of an Assembly Market Facility; providing for the appointment and term of office of subsequent Boards of Directors of an Assembly Market Facility;

ity; authorizing the Governor, after notice and hearings, to remove from office any Member of the Board of Directors of any Facility created hereunder for neglect of duty, inefficiency or misconduct in office; to provide for appointments to fill unexpired terms of Members of such Boards; to provide for the conduct of meetings of the Board of Directors of a Terminal Market Facility and of an Assembly Market Facility and the election of a Chairman and Treasurer thereof; to grant certain discretionary powers and authority to the Board of Directors of a Terminal Market Facility and to the Board of Directors of an Assembly Market Facility; to provide for the payment of per diem and certain expenses incurred by Members of the Board of Directors of such Facilities; to grant certain other powers and authority to the Board of Directors of a Terminal Market Facility and the Board of Directors of an Assembly Market Facility; to provide certain limitations and re-striptions upon the powers and authority granted said Boards of Directors hereunder; to authorize the issuance of bonds by Terminal Market Facilities and Assembly Market Facilities and to prescribe the conditions upon which such bonds may be issued; to provide for an annual audit of each Terminal Market Facility and Assembly Market Facility created under the provisions of this act; authorizing the State Market Commission to require the keeping of such records and such reports as it deems necessary concerning the operation of such Facilities; providing penalties for the violation of certain provisions hereof; declaring the provisions hereof separable; and repealing all laws or parts of laws in conflict herewith.

Section 1. PURPOSE.

The purpose of this Act is to provide a permissive method for the establishment of terminal and assembly mar-

kets, through the creation of non-profit corporations, to be known as "Farm Products Market Facilities," in order to promote the efficient and economic handling of farm and food products in the interest of the growers, the food trade, and the consuming public, this method to be in addition and supplementary to any and all other methods for the creation of such types of markets provided for or permitted under the laws of this State.

It is further the purpose of this Act to provide an efficient place where private enterprise can operate effectively and maintain the management of the market in the hands of those who use it. There shall be no interference by the management of the market with such incidents of private enterprise as profits, prices and types of farm and food products dealt in.

Section 2. DEFINITIONS.

a. The term "farm products" shall include all agricultural, floricultural, vegetable, and fruit products of the soil, livestock and meats, poultry, eggs, dairy products, and any and all products which have their situs of production on the farm.

b. The term "food products" shall include any and all products either in a natural or processed state used by man or animal as food.

c. The term "person" shall mean any individual, partnership, corporation, association, or any other business entity.

d. The term "farmer" shall mean any person principally engaged in the commercial production of farm products.

e. The term "wholesaler" shall mean any person other than a farmer who is engaged primarily in the trading in farm and food products for resale to persons other than consumers.

f. The term "retailer" shall mean any person other than a farmer who engages primarily in the selling of farm or food products directly to consumer.

g. The term "Facility" shall mean a public corporation, termed a farm product market facility, created under the provisions of this Act.

h. The term "market" shall mean the physical areas, structure, and appurtenances owned, leased, or operated by the Facility in connection with the performance of its functions under this Act.

i. The term "terminal market" shall mean a market for farm and food products located in a predominantly consuming area and operated primarily for the purpose of facilitating the sale or other disposal of such products at wholesale.

j. The term "assembly market" shall mean a market for farm and food products, located in a predominantly producing area and operating primarily for the assembly, sale and shipment of such products to terminal markets or other outlets.

Section 3. ESTABLISHING FACILITY—PETITION PROCEDURE.

Any organization or group of farmers, wholesalers, retailers, or any political subdivision of the State may, individually or jointly, petition the State Market Commission, in the manner hereinafter provided, for the establishment of a Terminal Farm Products Market Facility; and any organization of farmers or any political subdivision of the State may, individually or jointly, petition the State Market Commission, in the manner hereinafter provided, for the establishment of an Assembly Farm Products Market Facility. The petition, in either case, shall set forth:

a. The territory in which the facility shall be designated to operate, the city, village or town, and the parish in which the market is to be located, and whether the market is to be a terminal or an assembly market;

b. The name and post-office address of such petitioner and the fact that each such petitioner operates within the territory of operation described in the petition; the

qualifications of each such petitioner under the provisions of this Act; the name and postoffice address of the individual representative of each such petitioner empowered to execute the petition in its behalf; and a statement of the action by each such petitioner authorizing the submission of the petition under the provisions of this Act and granting authority to its individual representative to execute the same;

c. The proposed legal name of the Facility.

d. The purposes of the Facility and the need therefor, its proposed methods of financing, management, and operation, and its plans for construction and future development;

e. The names and postoffice addresses of the nominees from among whom the Governor is to appoint the Board of Directors, as provided for in this Act together with the names and postoffice addresses of those who participate in the nomination of each category of directors, as herein-after provided.

Section 4. HEARINGS ON PETITION.

Upon the receipt of a petition, meeting the requirements of Section 3 above, the State Market Commission shall cause an investigation to be made; shall, within a reasonable time, cause a public hearing relative thereto to be held; and shall promptly report its findings with recommendations to the Governor, taking into consideration in the holding of such hearings and the making of such recommendations, the type, plans, and financial soundness of the Facility, the trading area to be served, the proximity of existing or proposed markets, and the natural flow of produce in the territory of operation, and any other circumstances which in his opinion may be relevant.

Section 5. CERTIFICATE OF AUTHORITY.

The Governor, if he is satisfied that the purposes of this Act will be effectuated, shall approve said petition and shall cause to be prepared and issued a certificate of authority creating such Facility and granting to it the right of operation as a public corporation in accordance with the provisions of this Act; provided, however, that the Governor, prior to such approval, may direct the State Market Commission to hold further hearings and to submit new or additional recommendations.

Section 6. FIRST BOARD OF DIRECTORS—TERMINAL MARKET FACILITY.

The first Board of Directors of a Terminal Market Facility shall consist of nine (9) members, as follows:

a. The Governor shall appoint two (2) directors from a list of four (4) wholesalers nominated by a majority vote at a general meeting of the wholesalers licensed under the United States Perishable Agricultural Commodities Act and operating within the territory of operation as defined in the certificate of authority; two (2) directors from a list of four (4) farmers nominated by a majority vote at a general meeting of farmers residing and normally marketing their products within said territory, and called for that purpose by the petitioner or petitioners upon due notice of such meeting published in a newspaper or other publication of general circulation in said territory; one (1) director from a list of three (3) businessmen, not wholesalers or retailers, nominated by the Chamber of Commerce in the city or town in which the market is to be located, through formal action by its governing body; and one (1) director from a list of three (3) retailers nominated by an association of retailers in the city or town in which the market is to be located, through the formal action of the association's governing body or by a majority vote at a meeting of retailers called for that purpose by the petitioner or petitioners upon due notice given in a newspaper or other publication of general circulation in said city or town;

b. The chief executive officer of the city or town shall serve as ex officio director or shall appoint a representative

who shall be an official of the city or town and shall be entitled to a vote at all meetings;

c. The Commissioner of Agriculture and the Chairman of the State Market Commission, or their representatives from the Department of Agriculture or the State Market Commission respectively, appointed by each of said officers individually, shall be ex-officio members of the Board of Directors, who shall be entitled to a vote at all meetings of the Board.

Section 7. TENURE OF OFFICE OF FIRST BOARD OF DIRECTORS—TERMINAL MARKET FACILITY.

Of the first board of directors of a Terminal Market Facility, one (1) farmer director and one (1) wholesaler director shall be appointed for a term of three years; one (1) director representing farmers, one (1) director representing wholesalers, the director representing businessmen, shall be appointed for one year. Each director shall continue to serve until his successor shall be appointed and qualify.

Section 8. SUBSEQUENT BOARDS OF DIRECTORS—TERMINAL MARKET FACILITY.

At the expiration of the term of the first appointed directors of a Terminal Market Facility, their successors shall:

a. Be nominated and appointed, as provided in Section 6 hereof, for terms of three years or until their respective successors shall have been appointed and qualify, except that the Governor shall appoint the two (2) wholesaler directors from a list of four (4) wholesalers nominated by a majority of the wholesalers operating within the market facility, and the two (2) farmer directors from a list of four (4) farmers nominated by a majority vote at a meeting of the farmers delivering their own produce to the market in their own trucks. In the event any of the above groups fail to nominate candidates for the board of directors under this section, the Governor shall appoint a director or directors with similar qualifications.

Section 9. FIRST BOARD OF DIRECTORS—ASSEMBLY MARKETS.

The first Board of Directors of an Assembly Market Facility shall consist of seven (7) members, as follows:

a. The Governor shall appoint four (4) directors from a list of eight (8) farmers nominated by a majority vote at a general meeting of the farmers normally marketing their products within said territory, and called for that purpose by the petitioner or petitioners upon due notice of such meeting published in a newspaper or other publication of general circulation in said territory.

b. The chief executive officer of the city or town shall serve as ex-officio director, entitled to a vote at all meetings. In case the market is not to be located in a city or town, then the governing body of the parish in which the market is to be located, shall appoint one (1) director who shall be an ex-officio director for the term of office of the body appointing him, and shall be entitled to a vote at all meetings.

c. The Commissioner of Agriculture, or his representative from the Department of Agriculture appointed by him, shall be an ex-officio member of the Board of Directors, who shall be entitled to a vote at all meetings.

d. The Chairman of the State Market Commission, or his appointed representative from the State Market Commission, shall be an ex-officio member of the Board of Directors, who shall be entitled to a vote at all meetings.

Section 10. TENURE OF OFFICE OF FIRST BOARD OF DIRECTORS—ASSEMBLY MARKETS.

Of the first Board of Directors of an Assembly Market Facility, two (2) farmer directors shall be appointed for a term of three (3) years, one (1) farmer director shall be appointed for two (2) years; and one (1) farmer director shall be appointed for a term of one (1) year. Each director shall continue to serve until his successor shall be appointed and qualify.

Section 11. SUBSEQUENT BOARDS OF DIRECTORS—ASSEMBLY MARKETS.

At the expiration of the terms of the first appointed directors of an Assembly Market Facility, their successors shall:

a. Be nominated and appointed, as provided in Section 9 hereof, for terms of three (3) years or until their respective successors shall have been appointed and qualify, except that the Governor shall appoint the four (4) farmer directors from a list of eight (8) farmers nominated by a majority vote at a meeting of the farmers delivering their own products to the market in their own trucks or vehicles. In the event of the above group failing to nominate candidates for the Board of Directors under this section, the Governor shall appoint a director or directors with the same qualifications.

Section 12. REMOVAL OF DIRECTORS, VACANCIES, ETC.

The Governor, after notice and opportunity for hearing, may remove any director of any Facility created hereunder, because of inefficiency, neglect of duty or misconduct in office. In the event that any director is unable to or fails for any reason to complete his term, the Governor shall appoint in his place for the unexpired term, nominated in the same manner as the director he is to succeed.

Section 13. OATH OF OFFICE, CONDUCT OF BUSINESS, ETC.

Each member of the Board of Directors of any Facility created hereunder, shall before entering upon the duties of his office, take the constitutional oath of office and file the same in the office of the Secretary of State, five (5) members of the Board of Directors of a Terminal Market Facility and four (4) members of the Board of Directors of an Assembly Market Facility shall, respectively, constitute a quorum for the transaction of business of the particular Facility; in each case the concurrence of a majority present at a meeting at which a quorum is present shall be necessary for the passage of any resolution, order or determination. The Board of Directors of either type of facility may appoint an executive committee and such other special committee as it deems proper. Each Board shall meet at least once each quarter during the fiscal year and during its first meeting of each fiscal year, shall choose a Chairman and a Treasurer by a majority of all Directors. The Directors of a Terminal Market Facility shall receive \$10.00 for each meeting and shall be paid actual travel expenses not to exceed 8¢ per mile; the Directors of an Assembly Market Facility shall be paid \$10.00 for each meeting and shall be paid actual travel expenses not to exceed 8¢ per mile.

Section 14. POWERS.

Any Facility created under the terms of this Act shall, through the action of its Board of Directors, taken as provided in this Act, have power:

a. To acquire by purchase, lease, condemnation, or otherwise, such land or any interest in land, or other property, real or personal, as may be necessary in its opinion to the operation of the market, and any mortgage, sell, lease, rent, exchange, or otherwise dispose of any such property as it may deem advisable; provided, however, that no real estate shall be sold unless the sale is approved by the Governor and trustee of the bondholders;

b. To plan, build, construct, or operate, or cause to be built, constructed, or operated, such buildings, structures, equipment, and appurtenances thereto as it may deem necessary for the operation of the market, including, without limiting the generality of the foregoing, restaurants, filling stations, garages and warehouses, provisions for sanitation and similar accessories for market operation;

c. To borrow money, make and issue negotiable notes, bonds, refunding bonds, and other evidences of indebted-

ness or obligations (herein called "bonds") of the Facility, said bonds to have a maturity date not longer than thirty years from the date of issue, and to secure the payment of such bonds or any part thereof by pledge or mortgage of all or any of its revenues, receipts or other assets, real or personal, and to make such arrangements with the purchasers or holders of such bonds, or with others in connection with any such bonds (whether issued or to be issued), as the Facility shall deem advisable, and in general to provide for the security of said bonds and the rights of the holders thereof; provided, however, that no obligations incurred by the Facility shall be a debt to the state or any of its political subdivisions, or a pledge of the credit or taxing power of the state or any political subdivisions thereof. The Facility is authorized to receive appropriations, gifts, and contributions of money, supplies, goods and services, or loans thereof, if approved by the Governor, and the political subdivisions of this state are hereby authorized to make upon such terms and in such manner as may be required by the laws of this state, such appropriations and loans to such Facilities;

d. To employ a market manager qualified to operate a market of the type contemplated by the Facility and such additional employees as may be necessary for the management and operation of the market;

e. To fix the salaries of the market manager and any other authorized employees of the market;

f. To fix, alter, charge and collect rentals and charges for stores, stalls, space, buildings, equipment and other appurtenances, privileges, and service furnished or performed, in or in connection with the market, for the purpose of providing for the payment of the expenses of the Facility, the construction, improvement, repair, maintenance and operation of its properties, the payment of the principal of and interest on its obligations, and to fulfill the terms and provisions of any agreements made with the purchasers or holders of any such obligations; provided, however, that such rentals and charges shall not be designed to render a profit to the Facility;

g. To promulgate reasonable rules and regulations relating to the use of the market, including, without limiting the generality of the foregoing, rules and regulations relating to hours of business, sanitation, traffic and such other matters as are normally incidental to the proper management of a market; provided, however, that no such rule or regulation shall fix or regulate prices, profits or types of farm and food products dealt in;

h. In its discretion, reasonably exercised, and after due notice and an opportunity to be heard, to suspend or revoke any or all rights or privileges of any person violating the rules and regulations provided for in (g) above, enjoyed in connection with his activities in the market;

i. To make contracts of any name and nature and to execute all instruments necessary or convenient for the carrying on of its business;

j. To enter into and maintain contracts for all such types of insurance as it may deem necessary to protect the Facility against loss;

k. To enter into contracts of group insurance for the benefit of its employees, and to set up a retirement or benefit fund for such employees;

l. To adopt and use a corporate seal;

m. To make by-laws for the management and regulation of its affairs;

n. To sue and be sued in its corporate name;

o. To delegate to the market manager or other officers of the Facility such duties and responsibilities in relation to the operation of the market as it may deem necessary;

p. In general, to do such other acts and things as may be reasonably necessary or convenient to carry out the powers hereinabove enumerated, and to carry on the operations of a market for farm and food products in accordance with the general purposes of this Act.

Section 15. LIMITATION OF POWERS.

The exercise of the powers, granted in Section 14 of this Act, shall be deemed to be expressly limited as follows:

a. The Facility shall be subject to all of the zoning, building, fire, sanitary, health and other police ordinances and regulations of the State and political subdivisions in which it is established;

b. The Facility shall have no power to discriminate in its operations against the sale of any farm or food products, or against any producer of such products, on account of the country, State or political subdivision in which any such products are produced, or on account of the legal nature of the producer or other person engaged in the marketing of any such products, or on account of the conditions of employment or the nature of the labor employed in the production or marketing of such products or on account of the method of transportation; but every Facility shall take every reasonable precaution to prevent any such discrimination;

c. The facility shall have no power to acquire, construct, maintain or operate a market which is not operated primarily for the purpose of handling farm and food products;

d. No member of the Board of Directors of any Facility shall be interested directly or indirectly in any transaction with the Facility except in connection with his normal business operations in the market;

e. No Facility shall itself engage directly or indirectly in the purchase or sale of farm or food products, or engage in any business other than that of managing the market Facility.

Section 16. BONDS.

The bonds of the Facility hereinabove referred to and authorized to be issued, shall be authorized by resolution or resolutions of the board thereof and shall be of such series, bear such date or dates, mature at such time or times, not exceeding thirty years from their respective dates, bear interest at such rates, not exceeding 6% *per annum*, payable annually or semi-annually, be in such denominations, be in such form, either coupon or fully registered without coupons, carry such registration, exchangeability and interchangeability privileges, be payable in such medium of payment and at such place or places, be subject to such terms of redemption not exceeding 105 per centum of the principal amount thereof; and be entitled to such priorities with respect to the revenues or receipts of the Facility, as all such resolution or resolutions may provide. The bonds shall be signed by the officers as the Facility shall determine, and coupon bonds shall have attached thereto interest coupons bearing the facsimile signature of the treasurer of the Facility, all as may be prescribed in such resolution or resolutions. Any such bonds may be issued and delivered notwithstanding that one or more of the officers signing such bonds or the treasurer whose facsimile signature shall be upon the coupons, if any, shall have ceased to be such officer or officers at the time such bonds shall actually be delivered. Pending the preparation and delivery of definite bonds, interim receipts or temporary bonds may be issued and delivered to the purchaser or purchasers of such definite bonds, and may contain such terms and conditions as the Facility may determine.

Said bonds may be sold at public or private sale for such price or prices as the Facility shall determine, provided that the interest cost to maturity of the bonds shall not exceed 6 per centum *per annum*.

B. Any resolution or resolutions authorizing the issuance of any bonds may contain provisions which shall be part of the contract with the holders thereof, as to:

a. pledging the full faith and credit of the Facility (with the express understanding that no obligations incurred by the Facility shall be an obligation to the state or any of its political subdivisions, or a pledge of the credit and taxing

power of the state or any political subdivisions thereof) as security for such obligations, or restricting such security to all or any part of the revenues of the Facility from all or any of its properties ;

b. the construction, improvement, operation, extension, enlargement, maintenance and repair of the properties of the Facility, and the duties of the Facility with reference thereto,

c. the terms and provisions of the bonds,

d. limitations on the purposes to which the proceeds of the bonds then or thereafter to be issued may be applied,

e. the rate of rentals and charges for stores, stalls, space, buildings, equipment and other appurtenances, privileges, and the services furnished or performed, on or in connection with the market,

f. the setting aside of reserves and sinking funds and the regulations and the deposition thereof,

g. limitations on the issuance of additional bonds,

h. the terms and provisions of any deed or trust or indenture securing the bonds or under which the same may be issued, and

i. any other or additional agreements with the holders of the bonds.

C. In order to secure any such bonds, any Facility may enter into any mortgages, deeds of trust, indentures or other agreements with any bank or trust company, or other person or persons in the United States having power to enter into the same, including any Federal agency, and may assign and pledge any or all of the revenues, receipts or other assets, real or personal, of the Facility thereunder. Such mortgage, deed or trust, indenture or other agreement may contain such provisions as may be customary in such instrument, or as the Facility may authorize, including (but without limitation) provisions as to (1) the construction, improvement, alteration, expansion, operation, maintenance and repair of any properties of the Facility, and the duties of the Facility with reference thereto, (2) the application of funds and the safeguarding of funds on hand or on deposit, (3) the rights and remedies of the trustee and the holders of the bonds (which may include restrictions upon the individual right of action of such bondholders) and (4) the terms and provisions of the bonds or the resolutions authorizing the issuance of the same.

Said bonds shall have all the qualities of negotiable instruments under the law of merchants and the negotiable instrument law of this state. In the event that the Facility shall default in the payment of the principal of or interest on any of the bonds, whether at maturity or upon call for redemption, and such default shall continue for a period of thirty days; or in the event that the Facility or any officers, agents or employees thereof shall fail or refuse to comply with the provisions of this Act or shall default in any agreement made with the holders of the bonds, any holder of bonds or trustee thereof shall have the right to apply in an appropriate judicial proceeding to any court of competent jurisdiction for the appointment of a receiver to represent the bondholders for the purposes herein provided, whether or not all bonds have been declared due and payable and whether or not such holders of trustees therefor are seeking or have sought to enforce any other right or exercise any remedy in connection with such bonds. Upon such application the court may appoint, and if the application is made by the holders of or a trustee on behalf of the holders of 25 percent in aggregate principal amount of such bonds then outstanding, shall appoint, a receiver to represent the bondholders for the purposes herein provided.

2. The receiver so appointed shall forthwith directly or by his agents and attorneys enter into and upon and take possession of the properties of the Facility, and may exclude the Facility, its officers, agents and employees and all persons claiming under them wholly therefrom and shall have, hold, use, operate, manage and control the properties of the Facility in the name of the Facility, or

otherwise, as the receiver may deem best and shall exercise all of the rights and powers of the Facility with respect to such properties as the Facility itself might do. Such receiver shall maintain, restore, insure and keep insured the properties of the Facility and from time to time shall make all such necessary or proper repairs as may seem expedient to such receiver, and shall establish, levy, maintain and collect such rents and charges in connection with the properties of the Facility as such receiver may deem necessary, proper or reasonable and shall collect and receive all revenues of the Facility and deposit the same in a separate account and apply such revenues so collected and received in such manner as the court shall direct.

3. Whenever all that is due upon the bonds and interest thereon, and upon any other obligations and interest thereon, having a charge, lien or other encumbrance on the revenues of the Facility under any of the terms of any covenants or agreements with the holders of bonds shall have been paid or deposited as provided therein, and all the faults shall have been cured and made good, the court may, in its discretion and after such notices and hearings as it deems reasonable and proper, direct to the receiver to surrender possession of the properties of the Facility to the Facility, the same right of the holders of the bonds to secure the appointment of a receiver to exist upon any subsequent default as hereinabove provided.

4. Such receiver shall in the performance of the powers hereinabove conferred upon him act under the direction and supervision of the court making such appointment and shall at all times be subject to the orders and decrees of such court and may be removed thereby. Nothing herein contained shall limit or restrict the jurisdiction of such court to enter such other further orders and decrees as such court may deem necessary or appropriate for the exercise by the receiver of any functions specifically set forth herein.

5. Notwithstanding anything in this section to the contrary, said receiver shall have no power to sell, assign, mortgage or otherwise dispose of any assets of whatever kind of character belonging to the Facility and useful therefor, but the authority of any such receiver shall be limited to the operation and maintenance of the Facility and no court shall have any jurisdiction to enter any orders or decrees requiring or permitting said receiver to sell, assign, mortgage or otherwise dispose of any such assets.

E. 1. Subject to any contractual limitations binding upon the holders of any issue of bonds or trustee therefor included but not limited to the restrictions of the exercise of any remedy to a specified proportion or percentage of such holders, any holders of bonds, or trustee therefor, shall have the right and power for the equal benefit and protection of the holders of bonds similarly situated:

(a) By mandamus or other suit, action or proceeding at law or in equity to enforce his rights against the Facility and any of its officers, agents, or employees, and to require and compel such Facility or any such officer, agents, or employees to perform and carry out its and their duties and obligations under this Act and its and their covenants and agreements with bondholders;

(b) By action or suit in equity to require the Facility to account as if it were the trustee of an express trust for the bondholders;

(c) By action or suit in equity to enjoin any acts or things which may be unlawful or in violation of the rights of the bondholders;

(d) Bring suit on the bonds;

(e) By notice in writing to the Facility, declare all bonds due and payable, and if all defaults shall be made good then with the consent of the holders of 25 per centum (or such other percentage as may be specified in any resolution, indenture or other instrument authorizing the issuance of such bonds) of the principal amount of the bonds outstanding, to annul such declaration and its consequences.

2. No remedy conferred by this Act upon any holder of bonds, or any trustee therefor, is intended to exclusive of any other remedy, but each such remedy is cumulative and in addition to any other remedy and may be exercised without exhausting and without regard to any other remedy conferred by this Act or any other law. No waiver of any default or breach of duty or contract, whether by any holder of bonds, or any trustee therefor, shall extend to or shall affect any subsequent default or branch of duty or contract or shall impair any rights or remedies thereon. No delay or omission of any bondholder or any trustee therefor to exercise any right or power accruing upon any default shall impair any such right or power or shall be construed to be a waiver of any such default or acquiescence therein. Every substantive right and every remedy conferred upon the holders of bonds may be enforced and exercised from time to time and as often as may be deemed expedient. In case any suit, action or proceeding to enforce any right or exercise any remedy shall be brought or taken and then discontinued or abandoned, or shall be determined adversely to the holder of the bonds, or any trustee, therefor, then and in every such case the Facility and such holder, of such trustee, shall be restored to their former positions and rights and remedies as if no such suit, action or proceeding had been brought or taken.

Section 17. The facilities established under this Act shall be exempt from all such state, parish, or local taxation as to which may be validly provided under the constitution of the State of Louisiana.

Section 18. AUDIT and PUBLICATIONS.

(a) Immediately after the close of each fiscal year, every Facility established pursuant to this Act shall cause an audit to be made of its operations for such fiscal year. Such audit shall be made by a certified public accountant, or firm of accountants not regularly employed

by the Facility for its accounting purposes, or, with the approval of the proper State official, by a regular State accounting agency. Within ninety days after the close of its fiscal year each such facility shall file with the State Market Commission a copy of such together with the names of the officers and directors thereof. Any person wilfully violating or wilfully failing to comply with the provisions of this section shall be guilty of misdemeanor, punishable by fine not to exceed \$100 or imprisonment not to exceed 30 days, or both.

(b) Every authority established hereunder shall keep such records and make such reports to the State Market Commission as may be required by the Chairman.

(c) In case any such authority shall fail or refuse to keep such records and to make such reports as are required by subsection (b) of this section, the Chairman of the State Market Commission through the District Attorneys of the several parishes may institute the necessary proceedings, legal or otherwise, in his discretion, to have the directors, or such of them as are responsible for such failure or refusal, removed from office as provided in Section Twelve of this Act.

Section 19. SEPARABILITY OF PROVISIONS.

If any provisions of this Act, or the application thereof to any person or circumstance, is held invalid, the remainder of this Act and the application of such provision to other persons or circumstances shall not be affected thereby.

Section 20. All laws or parts of laws in conflict with this Act shall be and are hereby repealed.

Approved by the Governor: June 25, 1948.

A true copy:

WADE O. MARTIN, JR.
Secretary of State.

APPENDIX III

METHODOLOGY AND COST COMPARISONS

Annual costs to, through, and from the present and proposed wholesale market facilities by commodity group and method of financing, along with the applicable volume involved in these costs, are shown in table 14. All the costs relating to operations were obtained from samples of the wholesalers included in the study. Costs in pro-

posed facilities were developed from expenses associated with the recommended food distribution center and experiences of other wholesalers in similar facilities. The total annual costs were divided by the volume pertaining to them to obtain an average cost per ton for each cost component. Costs per ton were then multiplied by the volume pertaining to the specific function of all candidate firms in a commodity group for total costs.

TABLE 14.—Estimated annual costs of moving food commodities to, through, and from present and proposed wholesale market facilities, New Orleans, 1972

Movement of commodities	Volume (tons)	Present facilities		Proposed facilities				
		Cost per ton	Total cost	Private financing		Public financing		
				Cost per ton	Total cost	Difference	Cost per ton	Total cost
FRESH FRUITS AND VEGETABLES								
To facilities:								
Direct receipts subject to cartage-----	3, 465	\$14. 40	\$49, 896	0	0	\$49, 896	0	\$49, 896
Direct receipts without cartage-----	133, 647							
Subtotal or average-----	137, 112	. 36	49, 896	0	0	49, 896	0	49, 896
Interwholesaler transfers-----	1, 482	10. 77	15, 961	\$8. 24	\$12, 212	3, 749	\$8. 24	3, 749
Avoidable delay-----	1(55, 438)	. 50	27, 715	0	0	27, 715	0	27, 715
Subtotal or average-----	1, 482	29. 47	43, 676	8. 24	12, 212	31, 464	8. 24	31, 464
Total or average-----	138, 594	. 68	93, 572	. 09	12, 212	81, 360	. 09	81, 360
Through facilities:								
Facility labor:								
Unloading-----	138, 594	1. 75	242, 539	. 37	51, 280	191, 259	. 37	191, 259
Handling within-----	138, 594	1. 49	206, 505	. 34	47, 122	159, 383	. 34	159, 383
Loading-----	138, 594	2. 34	324, 310	1. 17	162, 155	162, 155	1. 17	162, 155
Subtotal or average-----	138, 594	5. 58	773, 354	1. 88	260, 557	512, 797	1. 88	512, 797
Other costs:								
Facility services-----	138, 594	. 88	121, 963		(²)	121, 963		121, 963
Handling equipment use-----	138, 594	. 09	12, 473	1. 13	156, 611	-144, 138	1. 13	156, 611
Waste, theft, and deterioration-----	138, 594	5. 52	765, 039	1. 35	187, 102	577, 937	1. 35	187, 102
Facility rental-----	138, 594	1. 98	274, 180	5. 18	718, 227	-444, 047	3. 67	508, 568
Subtotal or average-----	138, 594	8. 47	1, 173, 655	7. 66	1, 061, 940	111, 715	6. 15	852, 281
Total or average-----	138, 594	14. 05	1, 947, 009	9. 54	1, 322, 497	624, 512	8. 03	1, 112, 838
								834, 171

See footnotes at end of table.

Through facilities:

Facility labor:

Unloading-----	43, 086	1. 96	84, 449	1. 57	67, 529	16, 920	1. 57	67, 529	16, 920
Handling within-----	43, 086	5. 50	236, 973	5. 23	225, 161	11, 812	5. 23	225, 161	11, 812
Loading-----	43, 086	3. 25	140, 300	2. 62	112, 975	27, 325	2. 62	112, 975	27, 325
Subtotal or average-----	43, 086	10. 71	461, 722	9. 42	405, 665	56, 057	9. 42	405, 665	56, 057

Other costs:

Facility services-----	43, 086	2. 82	121, 350	(2)	121, 350	(2)			121, 350
Handling equipment use-----	43, 086	. 42	18, 096	1. 26	54, 371	-36, 275	1. 26	54, 371	-36, 275
Waste, theft, and deterioration-----	43, 086	6. 60	284, 368	3. 00	129, 258	155, 110	3. 00	129, 258	155, 110
Facility rental-----	43, 086	6. 35	273, 636	10. 17	438, 294	-164, 658	7. 22	311, 198	-37, 562
Subtotal or average-----	43, 086	16. 19	697, 450	14. 43	621, 923	75, 527	11. 48	494, 827	202, 623
Total or average-----	43, 086	26. 90	1, 159, 172	23. 85	1, 027, 588	131, 584	20. 90	900, 492	258, 680

From facilities:

Distribution to point within study

area:

Area I-----	17, 352	12. 53	217, 383	13. 19	228, 905	-11, 522	13. 19	228, 905	-11, 522
Area II-----	1, 002	17. 31	17, 341	17. 78	17, 820	-479	17. 78	17, 820	-479
Area III-----	1, 660	29. 97	49, 743	32. 75	54, 370	-4, 627	32. 75	54, 370	-4, 627
Area IV-----	2, 913	25. 60	74, 587	32. 35	94, 222	-19, 635	32. 35	94, 222	-19, 635
Area V-----	8, 394	18. 31	153, 656	39. 86	334, 581	-180, 925	39. 86	334, 581	-180, 925
Subtotal or average-----	31, 321	16. 37	512, 710	23. 30	729, 898	-217, 188	23. 30	729, 898	-217, 188

Customer pickup at facilities.

Distribution outside of metropolitan

area.

Distribution outside of State-----	7, 899								
Subtotal or average-----	11, 082								
Total or average-----	42, 403	12. 09	512, 710	17. 21	729, 898	-217, 188	17. 21	729, 898	-217, 188
Grand total or average-----	342, 403	40. 16	1, 703, 031	41. 65	1, 766, 258	-63, 227	38. 66	1, 639, 162	63, 869

POULTRY AND EGGS

To facilities:

Direct receipts subject to cartage.

Direct receipts without cartage.

Subtotal or average-----	197	13. 88	2, 736	0	0	2, 736	0	0	2, 736
	8, 744								
Subtotal or average-----	8, 941	13. 31	2, 736			2, 736			2, 736

See footnotes at end of table.

TABLE 14.—*Estimated annual costs of moving food commodities to, through, and from present and proposed wholesale market facilities, New Orleans, 1972—Continued*

Movement of commodities	Volume (tons)	Present facilities		Proposed facilities					
		Cost per ton	Total cost	Private financing		Public financing			
				Cost per ton	Total cost	Difference	Cost per ton	Total cost	Difference
POULTRY AND EGGS—continued									
To facilities—Continued									
Interwholesaler transfers-----	164	\$2.16	\$355	\$2.26	\$370	-\$15	\$2.26	\$370	-\$15
Avoidable delay-----	0	0	0	0	0	0	0	0	0
Subtotal or average-----	164	2.16	355	2.26	370	-15	2.26	370	-15
Total or average-----	9,105	.34	3,091	.04	370	2,721	.04	370	2,721
Through facilities:									
Facility labor:									
Unloading-----	9,105	1.89	17,205	1.38	12,565	4,640	1.38	12,565	4,640
Handling within-----	9,105	1.70	15,442	1.51	13,748	1,694	1.51	13,748	1,694
Loading-----	9,105	3.34	30,296	2.35	21,397	8,899	2.35	21,397	8,899
Subtotal or average-----	9,105	6.91	62,943	5.24	47,710	15,233	5.24	47,710	15,233
Other costs:									
Facility services-----	9,105	.37	3,340	-----	(2)	3,340	-----	(2)	3,340
Handling equipment use-----	9,105	.17	1,556	.17	1,556	0	.17	1,556	0
Waste, theft, and deterioration-----	0	0	0	0	0	0	0	0	0
Facility rental-----	9,105	6.93	63,083	6.81	61,978	1,105	4.81	43,754	19,329
Subtotal or average-----	9,105	7.47	67,979	6.98	63,534	4,445	4.98	45,310	22,669
Total or average-----	9,105	14.38	130,922	12.22	111,244	19,678	10.22	93,020	37,902
From facilities:									
Distribution to point within study area:									
Area I-----	3,317	18.64	61,829	17.76	58,910	2,919	17.76	58,910	2,919
Area II-----	662	22.74	15,054	18.29	12,108	2,946	18.29	12,108	2,946
Area III-----	637	24.45	15,574	23.01	14,657	917	23.01	14,657	917
Area IV-----	186	42.59	7,922	24.09	4,481	3,441	24.09	4,481	3,441
Area V-----	2,135	13.31	28,417	17.83	38,067	-9,650	17.83	38,067	-9,650
Subtotal or average-----	6,937	18.57	128,796	18.48	128,223	573	18.48	128,223	573

[illegible]

See footnotes at end of table.

TABLE 14.—*Estimated annual costs of moving food commodities to, through, and from present and proposed wholesale market facilities, New Orleans, 1972—Continued*

Movement of commodities	Volume (tons)	Present facilities		Proposed facilities				
		Cost per ton	Total cost	Private financing		Public financing		
				Cost per ton	Total cost	Difference	Cost per ton	Total cost
GROCERIES AND FROZEN FOODS—continued								
From facilities:								
Distribution to point within study area:								
Area I	25,068	\$12.32	\$308,838	\$12.30	\$308,337	\$501	\$308,337	\$501
Area II	4,800	13.25	63,600	12.54	60,192	3,408	60,192	3,408
Area III	3,733	13.09	48,865	13.43	50,135	-1,270	50,135	-1,270
Area IV	4,267	12.97	55,343	13.42	57,264	-1,921	57,264	-1,921
Area V	15,468	12.66	195,825	17.93	277,342	-81,517	277,342	-81,517
Subtotal or average	53,336	12.61	672,471	14.12	753,270	-80,799	753,270	-80,799
Customer pickup at facilities:								
Distribution outside of metropolitan area:								
Distribution outside of State	3,441							
	573							
Subtotal or average	10,904							
Total or average	64,240	10.47	672,471	11.73	753,270	-80,799	753,270	-80,799
Grand total or average	3 64,240	34.03	2,186,040	28.74	1,846,015	340,025	1,721,356	464,684
FISH AND SHELLFISH								
To facilities:								
Direct receipts subject to cartage	936	10.91	10,212	14.55	13,619	-3,407	13,619	-3,407
Direct receipts without cartage	10,178							
Subtotal or average	11,114	.92	10,212	1.23	13,619	-3,407	13,619	-3,407
Interwholesaler transfers	956	12.16	11,625	8.22	7,858	3,767	7,858	3,767
Avoidable delay	0	0	0	0	0	0	0	0
Subtotal or average	956	12.16	11,625	8.22	7,858	3,767	7,858	3,767
Total or average	12,070	1.81	21,837	1.78	21,477	360	21,477	360

Through facilities:

Facility labor:

Unloading-----	12, 070	1. 84	22, 209	1. 77	21, 364	845	1. 77	21, 364	845
Handling within-----	12, 070	2. 59	31, 261	2. 38	28, 727	2, 534	2. 38	28, 727	2, 534
Loading-----	12, 070	1. 34	16, 174	1. 21	14, 605	1, 569	1. 21	14, 605	1, 569
Subtotal or average-----	12, 070	5. 77	69, 644	5. 36	64, 696	4, 948	5. 36	64, 696	4, 948

Other costs:

Facility services-----	12, 070	1. 23	14, 846	-----	(²)	14, 846	-----	(²)	14, 846
Handling equipment use-----	12, 070	. 07	845	. 08	966	—121	. 08	966	—121
Waste, theft, and deterioration-----	12, 070	3. 68	44, 400	3. 16	38, 184	6, 216	3. 16	38, 184	6, 216
Facility rental-----	12, 070	3. 79	45, 800	20. 35	245, 585	—199, 785	14. 46	174, 479	—128, 679
Subtotal or average-----	12, 070	8. 77	105, 891	23. 59	284, 735	—178, 844	17. 70	213, 629	—107, 738
Total or average-----	12, 070	14. 54	175, 535	28. 95	349, 431	—173, 896	23. 06	278, 325	—102, 790

From facilities:

Distribution to point within study area:

Area I-----	6, 738	8. 23	55, 454	8. 65	58, 284	—2, 830	8. 65	58, 284	—2, 830
Area II-----	162	12. 71	2, 059	9. 68	1, 568	491	9. 68	1, 568	491
Area III-----	81	11. 64	943	14. 06	1, 139	—196	14. 06	1, 139	—196
Area IV-----	81	11. 19	906	13. 90	1, 126	—220	13. 90	1, 126	—220
Area V-----	1, 055	9. 70	10, 234	17. 36	18, 315	—8, 081	17. 36	18, 315	—8, 081
Subtotal or average-----	8, 117	8. 57	69, 596	9. 91	80, 432	—10, 836	9. 91	80, 432	—10, 836

Customer pickup at facilities-----

Distribution outside of metropolitan

area-----

Distribution outside of State-----

Subtotal or average-----	2, 997	-----	-----	7. 24	80, 432	—10, 836	7. 24	80, 432	—10, 836
Total or average-----	11, 114	6. 26	69, 596	7. 24	80, 432	—10, 836	7. 24	80, 432	—10, 836
Grand total or average-----	³ 11, 114	24. 02	266, 968	40. 61	451, 340	—184, 372	34. 21	380, 234	—113, 266

¹ Not included in total.² Facility services costs are included as part of rent in new facilities.³ Excludes costs unaffected by move to new facilities.

These costs are not intended to represent the total costs incurred by the wholesalers in conducting their business. The operating costs in this report are only those considered to be affected by a relocation to new facilities.

The data in the cost tables are presented under three main headings, each of which is examined in detail in the following discussion.

To Facilities

Costs of moving commodities from initial points of receipt to the firms' facilities included cartage, interwholesaler transfers, and avoidable delay to trucks. All tonnages were estimated by the wholesalers.

Cartage Costs

Cartage costs were for loading commodities into trucks from commercial warehouses, team tracks, piers, and airports and hauling them to the firms' facilities. In the New Orleans area, cartage was performed by individual food firms using their own trucks. These costs were determined on the basis of (1) the average mileage and elapsed time per round trip, (2) the cost per mile for owning or renting, operating, and maintaining a truck, and (3) the cost per hour for driver. These elements were combined to estimate the cost per load. The average tons per load were obtained from the wholesalers. The cost per ton was then derived by dividing the cost per load by the average tons per trip.

The cost per mile for owning and renting trucks depended on the type and size of the vehicle. This cost varied substantially among the different commodity groups. Truck ownership expense consisted of fixed and variable costs. Fixed costs were depreciation, insurance, interest on invested capital, and taxes; variable costs were gasoline, oil, and maintenance.

Interwholesaler Transfers

Interwholesaler transfers were defined as movement of products between wholesalers within the study area. They included the cost of transporting commodities from the wholesaler's facility on a truck or other conveyance to the buyer's store, delay time at the buyer's store, and return. The total

volume of all interwholesaler transfers was estimated by the wholesalers. The cost per ton was derived in a manner similar to that used for cartage.

Avoidable Delay to Trucks

Avoidable delay consisted of actual delay time of the wholesaler's trucks within the immediate area of the wholesale facility. The cost of this delay was determined by multiplying the total annual hours of delay by the hourly cost of drivers and trucks. The resulting cost was then divided by the total volume handled less the amount transported by handcart. Delay time was estimated by wholesalers and drivers and was based on observations.

Through Facilities

The cost of handling commodities through facilities consisted of labor at the facilities and facility-related expenses.

Labor Costs

These costs were for the labor of unloading incoming railcars and trucks at the facilities, handling products within facilities, and loading outgoing trucks of wholesalers and buyers. The cost per ton was based on the total volume of food handled, which consisted of the sum of direct receipts and all interwholesaler transfers. The percentage of employees' total labor hours spent at unloading, handling within, and loading out as estimated by wholesalers determined the labor cost for each function with one exception.

The cost of handling within was for assembling orders, rotating inventory, moving merchandise into and out of coolers, freezers, ripening rooms, and storage areas, and moving merchandise between floors. The cost of moving commodities between split facilities that were owned or rented by an individual wholesaler was also included. The cost of processing was not included.

The cost of loading out was for moving merchandise from a street, sidewalk, facility floor, platform, overhead rail, or storage area into an outbound vehicle. If the driver participated in loading out, his labor was included in this operation. The driver's idle time spent waiting for

trucks to be loaded was included in distribution costs.

Other Costs

Cost data on facility services, handling equipment use, and waste, theft, and deterioration, as well as facility rental were either obtained from the records of wholesalers or were estimated by them.

Facility services included electricity, security measures, garbage and trash collection, extermination, and maintenance.

Purchase prices of handling equipment were estimated by the wholesalers. Ownership costs were based on this estimate and consisted of straight line depreciation, interest on invested capital, and insurance. Annual maintenance charges were based on estimates of equipment manufacturers and wholesalers.

Waste, theft, and deterioration costs consisted of the value of products lost in wholesaling operations. Reduction in the value of salvage products was included as part of the deterioration cost. Food products that had started to deteriorate before arrival at the wholesalers' facilities were not included in this cost.

Facility rental costs consisted of the annual rent paid by the wholesalers for the use of their facilities. The annual rental value of facilities was estimated by the owners. Facility maintenance, repairs, and real estate taxes were included as part of the rent.

From Facilities

To compare the impact of relocating the candidate wholesale firms, the present distribution costs were calculated and compared with estimated equivalent costs based on a food distribution center at the proposed site. These costs are summarized in table 14.

For this report the city was divided into five areas. Area I (central) is bounded by the Industry Canal to the Orleans and Jefferson Parish line and extends from the Mississippi River to Lake Pontchartrain. Area II (northeast) is bordered by Arabi, Chalmette, the Industry Canal,

and New Orleans East. Area III (southeast) is limited by the Harvey Canal, Gretna, Algiers, Lower Coast, Plaquemines Parish, and lower St. Bernard Parish. Area IV (southwest) is bordered by the Harvey Canal and the St. Charles Parish line and extends from the Mississippi River to Lafitte. Area V (northwest) is limited by Metairie, Kenner, and Harahan and extends from the Mississippi River to Lake Pontchartrain. Volume movements to each of these five areas were based on the direct receipts available for delivery by the wholesalers within this area, defined as the metropolitan area.

Basic data on costs relating to distribution of the commodities were obtained from a representative sample of firms associated with this study. Unless otherwise noted, all references to cost and product movement relate to these sample firms.

Information obtained from the sample firms was used to calculate overall truck ownership and operating costs and total labor delivery costs. These costs were calculated for each firm in the cost sample. To obtain a common basis of calculation, all trucks were assumed to depreciate over a 6-year period on a straight line basis with no scrap value. Six percent simple interest was charged for one-half of the initial purchase price to determine annual interest costs. Actual insurance costs were obtained and utilized. Operating costs consisted of actual charges for gas, oil, and maintenance. Labor costs were calculated by applying the actual wage rates, including fringe benefits, to the employee time spent in delivery operations.

Total truck costs, including ownership and operating charges, and the labor costs were converted to a form suitable for subsequent calculations. Truck costs were divided by the total miles driven to determine an average-per-mile cost for each firm. In a similar manner the total labor costs of delivery operations were divided by the time in minutes spent on that function to calculate an average labor cost per minute for each firm. This information was applied to the time-distance data shown in table 15 to determine the round-trip cost per ton to each area for present distribution costs. This partial distribution cost of round-trip cost

TABLE 15.—*Distance and time for distribution of food commodities from wholesalers' present facilities to within and between areas, New Orleans, 1972*¹

Distance and time from—	Area I (central)	Area II (northeast)	Area III (southeast)	Area IV (southwest)	Area V (northwest)
Area I:					
Miles.....	6	-----	-----	-----	-----
Minutes.....	11	-----	-----	-----	-----
Area II:					
Miles.....	15. 7	6. 2	-----	-----	-----
Minutes.....	22	10	-----	-----	-----
Area III:					
Miles.....	11	23. 2	2. 2	-----	-----
Minutes.....	27	36	3	-----	-----
Area IV:					
Miles.....	10. 6	26	7. 7	16. 2	-----
Minutes.....	24	34	16	19	-----
Area V:					
Miles.....	9. 4	25. 1	10. 9	18. 6	7. 7
Minutes.....	14	32	23	35	18

¹ Travel within given area based on distance and time to farthest border of that area and from center to center of all others. For description of area, see preceding text.

per ton represented only the cost of on-the-road movement to each area.

The round-trip cost per ton to each area was calculated in the following manner:

$$\frac{[(\text{total round-trip time}) (\text{labor cost per minute}) + (\text{total round-trip miles}) (\text{truck cost per mile})]}{\text{annual tons distributed to each area}}$$

$$\text{Round-trip cost per ton} = \frac{[(\text{total round-trip time}) (\text{labor cost per minute}) + (\text{total round-trip miles}) (\text{truck cost per mile})]}{\text{annual tons distributed to each area}}$$

Where

$$\text{Total trips} = \frac{\text{annual tons distributed to a given area}}{\text{average tons per truckload}}$$

and

$$\text{Total round-trip time} = (\text{number of trips to each area}) (\text{minutes per trip}^1)$$

and

$$\text{Total round-trip miles} = (\text{number of trips to each area}) (\text{miles per trip}^1)$$

An average round-trip cost per ton was calculated for all the firms in each commodity's sample by multiplying each firm's round-trip cost per ton to each area by the volume the firm distributed to that area, totaling the products, and dividing the result by the total tonnage all the firms in the appropriate sample distributed to that area. This average round-trip cost is defined as the to-from cost per ton. The calculations resulted in a different to-from cost for each commodity to each area.

The next step in the analysis was to calculate the remaining part of the distribution cost, which consisted of expenses for unloading at the customers' facilities, movement between customers, and associated delays. This part of the delivery cost is assumed to remain constant within a commodity group regardless of the locations of the wholesalers in relationship to their customers and is defined as the base cost in this analysis. The base cost was calculated in the following manner:

¹ See table 15.

Base cost per ton = (total delivery cost per ton) - (overall round-trip cost per ton)

Where

$$\text{Total delivery cost per ton} = \frac{[(\text{total truck operating and ownership cost for all sample firms}) + (\text{total labor cost for delivery by same firm})]}{\text{total tons delivered}}$$

and

$$\text{Overall round-trip cost per ton} = \frac{[(\text{tonnage delivered to area I}) (\text{to-from cost per ton to area I}) + (\text{tonnage delivered to area II}) (\text{to-from cost per ton to area II}) + (\text{tonnage delivered to area III}) (\text{to-from cost per ton to area III}) + (\text{tonnage delivered to area IV}) (\text{to-from cost per ton to area IV}) + (\text{tonnage delivered to area V}) (\text{to-from cost per ton to area V})]}{\text{total tons delivered within 5 areas}}$$

The total distribution cost per ton is the sum of the to-from cost per ton to each area plus the base cost per ton for the appropriate commodity.

Distribution costs from the proposed site were calculated in a similar manner as the distribution costs from the wholesalers' present facilities. Base costs previously calculated for each commodity were retained and new to-from costs were developed from the distance-time data shown in table 16. The results were applied to the total tonnage distributed by each commodity group to each area.

TABLE 16.—*Distance and time from proposed site to center of distribution areas, New Orleans, 1972*¹

From proposed site to indicated area	Distance	Time
	<i>Miles</i>	<i>Minutes</i>
I-----	6. 6	13
II-----	9. 3	14
III-----	16. 2	33
IV-----	16. 4	31
V-----	16. 4	23

¹ Travel within given area based on distance and time to farthest border of that area and from center to center of all others. For description of areas, see preceding text.

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